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ORIGINAL ARTICLES.

PROBLEMS OF PUBLIC INTEREST CONCERNING THE INSANE.*

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There are several problems of public interest involved in the present relations of society to the insane. Among the more important of these are questions of dependency, of curability of the insane, and of the preventibility of insanity.

Each of these questions presents two aspects for consideration—one appealing to whatever altruistic sentiment may have been developed with our growth, and the other to that selfish sentiment that is common to the race.

That there is a large number of insane persons, increasing rather than diminishing, in every civilized state, is a fact familiar to all intelligent interested observers.

That the insane constitute a dependent class of society is equally apparent.

Independence implies mental capabilities corresponding to impending necessities under any given circumstances. But few living beings are superfluously endowed for the end indicated. A large proportion of animal, as well as vegetable, specializations entering life upon terms of apparent equality, die prematurely because of inherent lack of capability to meet or resist the exigencies of environments.

The complex environments of civilized life require much greater capability on the part of individuals to maintain independence than are required by the more simple conditions of savagery.

Insanity implies mental impairment, hence lessened capability, noticeable as contrasting previous conditions manifested by the persons supposed to be insane.

Liability to become insane under ordinary provocation, is associated, as a general rule, with inherent defects of organization characteristic of a class of persons whose natural capabilities are below a common level at, or even above, which independence implies constant, anxious and often unsuccessful effort. A slight degree of impairment, therefore, may be sufficient to reduce a self-supporting person to a condition of dependency.

That exceptional persons of more than ordinary capability have become insane under exceptional circumstances—or that rare instances of exaggerated capability associated with some degree of mental disorder, have been observed—when properly considered should not discredit the foregoing statement or inferences.

It is true—if mental phenomena are sequential to cerebral activities orderly and disorderly, and reflect cerebral conditions sound and unsound—that it must be possible for whoever or whatever is endowed with brains to become insane under sufficient provocation. Fortunately for most of us, however, ordinary provocation is not sufficient to seriously derange the mental mechanisms of a large majority of mankind.

Neither should the fact that a considerable number of active and apparently capable, business men suffer and are destroyed by what is now familiarly known

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as 'paresis,' affect the position taken unfavorably. Clinically considered, in the sidelights of commemorative circumstances, these men are found to be not exceptional persons—but belonging to a class not only liable to become insane because of inherited peculiarities, but constitutionally prone to indulgence in practices more than ordinarily provocative of cerebral disease.

Degenerative impairment—hence incapability of self-support—on the part of the insane being admitted, the question of public interest is: What shall be done with and for them? All savage peoples aid and abet Nature in her methods of disposing of the defective and incompetent, in all of her kingdoms, by neglects and practices quite as cruel as her own. Our own ancestors were not exceptional in this respect.

Among civilized peoples it has come to be recognized as expedient and dutiful for the strong of our kind to succor and sustain the weak, no matter what the burden may be. Why this is or how it came to pass, need not be discussed in this connection. Enough to say that it is an 'inevitable sequence of antecedent conditions;' that the duty is clear and will never more be shirked while our people advance along the lines of christian civilization. It is our privilege, however, to consider 'ways and means' for the accomplishment of this end in a severely practical light. The problem then is: how shall this recognized obligation be discharged with the least expense to ourselves?

This depends, of course, upon the kind of provision for the dependent insane demanded by our sense of duty enlightened by sympathy as well as intelligence. What shall it be? Not such as was extended to the insane of all christian lands from the accession of Roman ecclesiasticism in Europe to the close of the eighteenth century! O no! Not even such as was considered satisfactory in the earlier decades of the present century! Not by a long way! Public sentiment now demands for the dependent insane not only custody and treatment, but provision for all the privileges and comforts of life that they are capable of enjoying. And this is right. Nothing could be more just or humane; nothing easier of accomplishment: provided the accomplishment be referred to agents sufficiently instructed and informed of the various degrees and peculiarities of capability for enjoyment of the different classes of the insane, instead of to the conceited zeal of public ignorance, however well intended. Public ignorance and mis-information respecting insanity and the insane, have given rise to nearly, if not quite, all of the fadulent notions that have made themselves known by endless clamor respecting public provision for the insane of late years—wearisome enough to well-informed listeners, if not altogether unprofitable.

It has not been the purpose of the writer in preparing this paper to renew or continue the discussion of definite 'propositions' for the proper care of the insane, including location, buildings, organization and management, etc., of public hospitals or asylums, further than to submit a brief resumé of conclusions reached, or opinions entertained, after the experiences of twenty-five years service as superintendent of large and small, public and private hospitals for the insane, and interested studies of the characteristics, capabilities, and needs of various classes of dependent persons.

These conlusions have been summarized as follows:

(1), Intelligent provision for the insane implies provision for various classes, according to capabilities of enjoyment, and the exercise, under intelligent supervision, of variously impaired faculties.

(2), Public provision for whatever class of insane persons implies: housing, clothing, feeding, sanitary and moral discipline, amusement and employment for such as are capable of being amused or employed, and medical treatment for the sick: the essential features of such provision being, so far as may be practicable under given circumstances, adaptability to the needs of each distinctive class.

(3), Great, expensive, architecturally-imposing palaces, providing alike for all classes, however serviceable they may have been, æsthetically considered, in times past—as they unquestionably were—are no longer necessary nor appropriate for the ends indicated. Yet, so the insane are comfortably housed, each class according to its condition, it is comparatively unimportant whether they be so in large or small houses; cottages or palaces;

connected or detached; high or low buildings.

(4), It is important that the insane of all classes be well fed under careful supervision; but whether in large or small dining rooms, by groups, or aggregations, is of so little consequence that it should be a matter of convenience rather than of principle.

(5), It is important that public institutions for the insane be well-organized and administered; but whether by three or thirty trustees is a matter of but little moment. Partisan, or bi-partisan boards of directors, may be equally good or equally bad. The fewer statutory details for the government of such institutions the better. Good men will govern a hospital well under adverse statutes, and bad men will manage to evade the wisest legislation. The usefulness and reputation of a hospital for the insane will reflect the characteristics of those who direct or administer its affairs, rather than the laws by which they are authorized to act, or the political party to which they belong.

(6), It is wise to retain in office capable men, who have demonstrated their fitness by successful management of affairs, so long as their capability continue to be elastic; but the displacement of officials whose ideas have become insoluble by competent and still growing men, with or without special training, should not be regarded with alarm nor as of doubtful propriety. Capability without experience is more valuable than experience without capability in any executive position. Whatever ills attend 'rotation in office' in this country, a custom essential to the vigor if not the existence of partisan organization, without which republican government would degenerate—are among the evils compensated by the good of almost unlimited freedom. The trend of human progress is not seriously deflected thereby.

ARE THE INSANE CURABLE?

That insane persons, in some instances, recover normal capabilities after impairment and disorder, is not a question but a fact. Whether or not such persons are greatly, or to any extent, aided to recover by what is done for them by public provisions for their treatment, is a question. How shall it be answered? There is no existing source of accurate information on the subject. Whatever answer is made must, therefore, be inferential and a matter of opinion only. There is a prevalent notion, whether well or ill founded, that the chance of recovery for an insane person is much enhanced by commitment to a hospital for treatment. A notion that emanated, probably, from general practitioners of medicine, who, as a class, are only too willing to escape the responsibility and annoyance of treating insane persons under ordinary circumstances; and has been confirmed by the claims of distinguished specialists administering the affairs of stately institutions, by which their occupation and pretensions have been greatly dignified.

As an economical problem it would be well to know more about this matter than is now known. If any considerable number of insane person are curable or will recover under hospital treatment, that would not recover otherwise, then it is a matter of economy on the part of the state to provide for such treatment, at an expense to be measured only by results. If the average life of a dependently impaired insane person is twelve years, and the average duration of disease of such as recover is one year, then the state can afford an extraordinary expenditure for the cure of the curable, as each recovery represents a saving of eleven years of maintance of an unrecovered person. It is not necessary to make more definite calculations; what we need to know is that the insane are amenable to treatment. That a large proportional number of insane persons are not curable, or recoverable under any known circumstances, can not now be denied in the face of facts the significance of which admits of but little question or modification. Men of experience and capability in the specialty to-day smile interrogatively or with incredulity at the pretensions of cure made by their not very remote predecessors in charge of hospitals for the insane. Statistics of hospitals, inconclusive as they necessarily are on most subjects requiring accurate and comprehensive information, are particularly so in relation to the question under consideration. Hospital authorities in bad repute because of their defects of construction and administration, sometimes exhibit a larger percentage of 'cures' than do the most reputable.

My belief, based upon observed facts

and rational inferences, is that no insane person who is not spontaneously recoverable under ordinarily favorable circumstances is curable by extrinsic influences of any kind. No insane person whose mental impairment is sequential to structural changes of tissues immediately implicated in the performance of mental functions, if of a pathalogical character, is spontaneously recoverable under any circumstances. By recovery I mean perfect restoration of normal conditions; not a partial restoration that may pass for 'cure,' that is after all, but repair.

Cicatricial tissues are always less complex, hence less capable, than the tissues which they replace in the process of reparation. Tissues by which lesions of continuity of skin or muscular fibres are repaired, are familiar examples of this law. It is not probable that brain-tissue is exceptional or exempt from so uniform a physiological process.

Recoverability from insane conditions is, therefore, limited to persons whose mental impairment is attributable to lesions of other than cerebral structures, whereby the brain may be temporarily deprived of its ordinary pabulum or supplied with vitiated nutriment, without impairment of its structural integrity; and 'curability,' is limited to such persons of this class as require the aid of more favorable circumstances than their ordinary environments supply or their means may command, to enable them to resist or overcome these conditions.

The problem of public interest in this connection then is:—has public provision for the insane furnished—can it be made to supply—essentially more favorable conditions for the recovery of the recoverable, than, as a rule, they otherwise enjoy?

That this question should be answered affirmatively I have no doubt.

Concentrated efforts therefore, should be made, backed by liberal expenditures and intelligently directed toward the creation of environments in every way conductive to the recovery of the recoverable: while provision for all other classes should be made with reference to their individual welfare and the utilization of such remnants of capability as they may be still possessed of, at the least reasonable expense.

It may be inferred from the foregoing that the writer does not estimate medicine as the most important factor in the problem of curative conditions for the insane. If by medicine is meant the administration of drugs or chemicals, the inference is a fair one. The insane can be medicated elsewhere as well as they can be in hospitals or asylums.

Hospital physicians have no mysterious knowledge of medicine—no specifics—no secret remedies.

Hospitals for the insane under the exclusive control of Doctors of Homeopathy, claim larger percentages of cure than do similar institutions administered by Doctors of Medicine.

The administration of medicine or the appearance of medicine, may still be wise, being responsive to the necessities of the multitudes who have not yet fully emerged from the shadows of primitive superstitions, nor so far departed from ancestral types as to be uninfluenced by the fetisch feeling that is common to the race, forever suggesting supernatural beings, designs, powers, activities and virtues in association with natural objects in explication of natural phenomena. There are material medicines, also, that are neither poisonous nor inert, that in the hands of skillful physicians contribute, unquestionably, to conditions essential to recovery, as above indicated. Medicines that can not be well omitted in the treatment of the insane under the most favorable circumstances. But these are not, or need not be, many—nor should too much dependence be placed upon their efficacy to the neglect of other and more important measures.

There are other uses, also, to which medicines are now being liberally appropriated in the treatment of the insane, that if not curative of those to whom the medicines are administered, are comforting to others with whom they may be necessarily associated—securing for the time-being silence and languor instead of raving and violence; and at the same time enabling the management to assure an admiring public of the fact that all restraints have been abolished from the hospital under their control, and the greatest reformation of the age has been accomplished by their benevolence and sagacity!

There may be wisdom in such an appropriation of means; knocking the insane down with chemical clubs and paralysing them with poisons instead of limiting

their movements by camisoles or protection beds;—but if so, it is wisdom of a kind unknown to my philosophy. There may be virtue in the practice—but if so, it must be of that kind that is said to be its own reward!

If the conditions favorable to the recovery of the recoverable insane do not consist of special medication or mysterious methods of treatment peculiar to hospitals for the insane—of what then do they consist?

They consist, in the first place, of the authority vested in or assumed by such institutions to control the conduct and prescribe the modes of living of the insane committed to them for custody and treatment. Secondly—notwithstanding the fad of the foolish that hospitals for the insane should be made as 'home-like' as possible—they consist of better sanitary surroundings, appurtenances and observances—in but few respects 'home-like' to the greater number of dependent insane persons to be benefitted thereby.

Third—not greater skill in medicine, but more knowledge of the insane on the part of doctors and nurses than is common to the profession—hence more rational treatment.

This is all! But indeed, this is much when considered in contrast with the ordinary home surroundings, modes of living and methods of dealing with the insane, characteristic of the population from which the insane are, for the most part, derivable.

These conditions well provided for, all the rest—minor matters about which so much babble has been heard, of mere 'annise and cummin' importance in hospital affairs—however interesting to persons incapable of appreciating weightier matters may safely be permitted to take care of themselves.

IS INSANITY PREVENTABLE?

Theoretically—yes! Practically—no! Theoretically, insanity is preventable—because so many of the so-called 'exciting causes' of insanity, in an ideal state of society would either not obtain or would be prevented. Practically, insanity is not preventable—because, human nature being as it is, an ideal state of society cannot be effected by any means at our command; nor otherwise than by the slow, however continuous, process of growth.

There are persons it is true, many and worthy in their way, who think otherwise and devote their energies persistently to the accomplishment of such ends. Persons who seem to be exceedingly sensitive to special objects but oblivious to the great fact of a Universe. Persons who interest themselves deeply in special subjects but fail to recognize the more important relations of parts to aggregates, or of generals to particulars, without which knowledge is of but little value. Persons who think, if at all, of the Universe as of a limited domain, governed by personal decrees of limited applicability and special providences to meet contingent emergencies as they arise. Persons who think of mankind as degenerate beings fallen from a high estate, moving upon a down-grade toward inevitable disaster—helpless of themselves, but for an arrest of whose downward progress they seem to think it only necessary to secure the enactment of some kind of a law, prohibitory or other, whereby the race may be restored to primitive conditions of innocence and happiness. These persons have their uses and play their parts in the great drama of human progress—failing of accomplishment, however, because the movements of mankind along the lines of civilization are not determined nor determinable by human prudence, wisdom or design, nor to be arrested or greatly modified by whatever protest, persuasion or statutory enactment, not in harmony therewith.

To prevent insanity, the fact is conspicuous that the antecedent conditions essential to its development must be so modified as to change the sequence.

What are the antecedent conditions essential to the manifestation of insanity?

(a), An inherent, consequently inheritable, peculiarity of organization, not common to the race but characteristic of a defective class of persons, and recognized, properly, as a structural 'potentiality of insanity.'

(b), Certain lesions of nutrition—whether from deprivation or excess—inanition, indigestion, intoxication, or inherited dyscrasias of various kinds.

(c), Exhaustion of organic energy transmutable by cerebral activities into mental force, by unusual or excessive expenditure in work or dissipation.

(d), Physiological limitations deter-

mined by germinal or spermatic conditions, by which structural types, growths, activities and longevities of individuals are dominated through every stage of existence, however influenced by external relations.

Of these antecedent conditions, some of which are essential to the development of insanity, it will be seen at a glance that not one of them can be successfully eliminated from present conditions of society, although there may be an ideal remedy for each.

The first mentioned, for example—that of inherited defect of organization—might be eliminated in time by countermarching the column of civilization and returning to primitive, or savage conditions of society, in which the defective drop out of the procession early in life because of their original incompetency to continue the effort required for existence, if not aided and abetted thereto by naturally instructed or instigated kindred, leaving only the more perfect to survive. But this we will not do; for whatever may be said or sung of the wisdom of nature and the beauty of things natural, no people having once reached a high plane of civilization by spontaneous effort has been known to return to barbarism or savagery. Disappointed and dissatisfied individuals occasionally seek the wilderness hoping to escape the exactions of good society morally and otherwise, but they represent exceptional characteristics.

Asexualization of the recognisably defective and constitionally vicious, criminal and otherwise offensive and unfit members of society by surgical interference, now safely practicable, would do this business in time. But however patent the fact may be that we are breeding criminals and lunatics and paupers and prostitutes at a constantly increasing ratio, as an inevitable sequence of our acts of benevolence and humanity—and that a compulsory solution of the problem will some day be made—it will require more than one 'campaign of education' to secure the adoption of so effectual, rational and beneficent a measure. Meantime it is a waste of energy to talk about prohibiting the legalization of marriages between defective parties as a remedy, as all obstructive marriage-laws contribute only to an increase of bastardy, feticide and kindred vices. The uniform demands of organic appetencies will not be satisfied nor held in abeyance, effectually, or to any considerable degree, by statutory enactments. Comets have never been deflected from their courses by papal bulls; nor can the imperious sentiment of sex in man be suppressed by ordinances.

Many worthy persons now believe that the second conditions mentioned—so far at least as they may be incidental to alcoholic intoxication—can be corrected by law. But, however commendable their motives, or valuable their work consistent with such belief, the advocates of 'prohibitory laws' for the elimination of alcoholic intemperance from society must admit that the end is still far from accomplishment with but little probability of success in the near future.

There are other poisons, also, that are more efficient than alcohol as ordinarily used, in the provocation of insanity—poisons that are developed within the body—the presence of which is neither voluntary, nor recognized as vicious in a moral sense by unskilled observers,—but none the less indicative of depravity of organization, manifested by depravity of functions to which such poisoning is attributable. Neither men nor women—not even Doctors of Medicine—have ever been persuaded or compelled, to live rationally at the expense of natural or acquired inclinations or appetites, or in violation of the decrees of Fashion.

Conditions (*c*)—or the undue expenditure of organic energy, whether by overwork or the indulgence of exciting passions, cannot be interfered with to any considerable extent without encroaching upon the 'inalienable rights' of persons to an intolerable degree. Ambitious men and necessitous women will continue to exhaust their energies by untimely toil. Gamblers of all grades of respectability, will strain their faculties to utmost tension in their efforts to exchange nothing for something—whether it be to effect a 'corner in wheat' or beat a faro-bank. The libidinous will not cease to pursue their pleasures, sacrificing sleep at the shrine of Venus; and anxious wives and mothers with saddened brows will still keep vigils awaiting the return of recreant husbands and undutiful or prodigal sons. These are things that cannot be controlled by law, nor greatly modified by education.

Conditions (*d*)—of unquestionable force and importance—preceding, and probably

involving all subsequent conditions incidental to constitutional evolution, are not sufficiently within the scope of present knowledge to be corrected by any known method of interference.

Insanity is, therefore, not only not preventable but increasing and certain to increase with the progress of civilization that, by its arts and charities, stays the relentless and remorseless hand of Nature from weeding her garden of humanity of the defective, superfluous and unprovided for.

Is this a gloomy outlook for the future of humanity? Not for him who has come to recognize humanity as a part and parcel of the universe, harmonious in its co-relations, responsive to its own necessities under all of the varying conditions of its historic development. To such only as in their egotistic infidelity and short-sightedness think that the conduct of the universe depends upon their action and apprehend immediate disaster should their schemes fail of accomplishment, is the future ever beclouded.

Thus far the strong have been strengthened by bearing the burden of the weak. When the burden shall have increased beyond certain limitations there will be a response to impending necessities, the character of which we need not now anticipate. Our duties are immediate, and pertain to whatever is nearest to be done. What we do constitutes the antecedents of sequences that we call the future; differing widely from results anticipated or predicted by those who are the conspicuous actors of any given present time or generation.

CLINICAL LECTURES.

PREGNANCY IN A CASE OF CURED METRO-SALPINGITIS—THE ELECTRIC TREATMENT OF METRITIS WITH LACERATION OF THE CERVIX.*

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This woman, aged 38, is quite an old acquaintance, having been first seen by me at Dr, Bradford's clinic at the Pennsylvania Hospital, five years ago. She then complained of extreme tenderness in the left ovarian region, so great indeed as to render her almost completely helpless. Examination disclosed an enlarged uterus with a deep laceration on one side, to its left there was a soft, irregular mass pressing the uterus to the right and very tender. The case presented a complete picture of a latent metritis due to the laceration that had occurred five years previously at her confinement, with a more recent extension of the affection to the left tube. Shortly afterwards the case was lost sight of, and only last year I learned that the cervix was repaired later in 1882, by a surgeon of this city. This operation closed the gap in the cervix nicely but plunged the patient into an illness that lasted more than a year, the metro-salpingitis being apparently aggravated. She appeared at this clinic about a year ago in a greatly broken condition, the tenderness and pain in the left groin being somewhat worse.

In placing her on electrical treatment it was thought best not to risk a direct treatment of the enlarged and painful womb, but begin the more tedious method of vaginal applications to the left tubal region. The negative pole of the galvanic current was used, covered with soaped absorbent cotton, with a current of about 50 ma. for some minutes twice a week. Later on in the treatment of the case several intra-uterine negative applications were tentatively given owing to the slowness of the improvement. At first she could stand but 15 ma. because of production of great pain, the current being subsequently used at a strength of 35 ma. These treatments were always painful and followed pain and were given up in favor of the vaginal applications, though I don't doubt they were of great service. To-day she is the picture of health, in spite

* A Clinical lecture delivered to students at Howard Hospital.

of some dyspepsia, and tells us that she is five months pregnant.

This case is a good illustration of the fact so frequently reiterated by me, that salpingo-oöphoritis is but an extension outwards of uterine inflammation, and is amenable to cure by vaginal applications of elictricity if the uterus is co-incidently restored to health. To restore the uterus to health will usually require this addition of direct applications of the galvanic current to the endometrium, but that these applications require some care in order that the patient's immediate condition shall not be aggravated is no argument against the method, as it gives us a mode of actual cure for conditions now almost always condemned to the knife. Even the pessimists among gynecologists, who have been removing so many of the tubes and ovaries in this condition, have recently awakened to the fact that in so doing they leave the original and an important present seat of the affection still in the pelvis within the uterus itself, and are now recommending that everything be removed at once. This association of metritis with inflamed ovaries and tubes was pointed out by myself over a year ago, and I also pointed out that in electrical treatment we have a remedy in all cases not connected with abscess formation or due to tuberculosis. To turn at once to amputation is against the dictates of reason, and incompatible with present practice in other departments of medicine.

The other case shown to you to-day, and whom we see for the first time, presents an example of a stellate laceration of the cervix of a uterus that is itself much enlarged. Some of these tears doubtless antedate the last confinement, which occurred ten months ago. Since that occurrence the involution of the uterus has been imperfect and she has had a continuous slight hemorrhage, which has not yielded to intelligent treatment at the hands of the physician. The uterus is very large and retroverted. We have here to deal with a case of subinvolution due to a hemorrhagic endometritis and a laceration of the cervix. In examining the cervix with the speculum I fail to find certain evidence of the recent occurrence of the laceration, as it is nicely healed over, just as a neglected cut in your lips would heal over with depression at one point.

It is evident that this woman suffers from the metritis and endometritis; to attribute her present condition to the theoretical influence of this healed tear is to reason in defiance of the known facts of inflammatory conditions and their pathology. This high state of hemorrhagic endometritis is of microbic origin and not due to the tear. It is, of course, possible that the laceration gave a ready entrance for microbic agencies within the uterine parenchyma originally, but that was done some time ago, and to cut out the healed scar now will not undo it.

The operation of trachelorraphy for these cases is based on pathological conceptions that antedate our present knowledge of the germ theory of disease. I shall therefore not advise that the case be treated in this way at present, but wait until the catarrhal affection of the endometrium, with its fast spreading influences within the uterine parenchyma, shall have been brought under control. If then the patient wishes this moderate rent repaired it can be done safely, though it is hard to perceive a reason for doing the operation other than the cosmetic considerations.

To cure the endometritis we have a choice of the curette or the galvanic current. Either will do it probably, though I cannot but regard the current as used here preferable for many reasons, as being a more certain and more scientific mode of altering the diseased surface to a controllable and safe extent, while also promoting absorption of effused products within the parenchyma and contraction of its muscular tissue. Several weeks treatment will be sufficient and there will be no need to use ether, have a trained nurse in attendance and make an operation of it.

It is also extremely unlikely that one curettage will suffice for this case, as there is no evidence of retained decidua as a cause of the subinvolution.

[NOTE.—After two applications of the positive, carbon electrode to the cavity the hemorrhage ceased. A few subsequent applications reduced the uterus to a nearly normal depth and removed the tenderness and pain.]

A Wish.

Tommy. "I wish I could go to night school."

Papa. "Why, Tommy; you go to school all day."

Tommy. "Well, if I did, I could play ball day."

COMMUNICATIONS.

CHOLERA INFANTUM AND ITS TREATMENT.*

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There is scarcely any disease that causes a greater mortality in childhood than that known by the name of estival diarrhœa or infantile cholera. In one single week, the last one of July of the present year, 1126 deaths occurred in thirty-three of the largest cities of England, caused by this disease alone. Statistics show everywhere a notable increase in the number of deaths during the months of June, July and August, that is to say, during the warmest season of the year. The malady is not limited to children only, but attacks also a great number of adults and old people (cholera nostras), being less mortiferous in the latter than in the former in whom it causes a mortality of 50, 60, and even 80 per cent. Only Asiatic cholera, to which it has the greatest similarity, can be compared to it for its ravages.

It is undoubtedly of microbic origin, as recent investigations have proved. It is not determined by substances of difficult digestion in the digestive tract, for it presents itself with the greatest frequency in children who take no more food than the maternal milk. Micrographic studies have revealed the presence of a special bacillus of very small dimensions and having a rounded form, and which abounds in the excretions to such a degree that in grave cases these are formed almost entirely of the organism in question, mixed with a little mucous and bacteria of putrefaction, and of amyloid bodies similar to those found in dysentery, which are probably white corpuscles altered. The bacillus is not found in the blood nor in the organic tissues; the epithelium of the kidneys is infected and degenerated, and the nutrition of the lungs suffers, which explains the brochopneumonia that is so frequently found in the autopsies. These anatomical alterations are probably the result of the accumulation of ptomaines in the blood and the rapid abstraction of water from the tissues by the abundant vomits and evacuations that characterize this disease. The exfoliation that the organism suffers is such that in a few hours, in the most severe cases the most robustchildren are turned to mere mummies.

But the energetic drainage is only the supreme effort of nature to rid the organism of the deleterious elements that poison it. To try to suppress it by therapeutical means is not an easy or a rational thing to do. It would only hinder the natural curative process. The only thing that can be done is to oppose the extreme dehydration of the tissues, by restoring to them without delay, at least a part of the water lost. This is the all important therapeutical indication, and no drug can take the place of pure cold water.

All the curative methods tried leave much to be desired. Their results are very precarious. All consist in the administration of medicinal substances, now astringents, now absorbents, antiseptics or antiperistaltics, and in the prescription of some alimental regimen. Such treatments are not in conformity with the great principle that governs therapeutics, viz., *rest of the organ that suffers.*

In the disease of which we are treating, it is very easy to act upon this great principle, seeing that the disease is of short duration, one or two days being the length of time that the gravity lasts. It is perfectly compatible with the life of an individual to suppress all food for twenty-four or forty-eight hours. Besides the condition of the mucosa of the digestive tube will not permit the absorption of any medicinal or alimental substance. The enormous exudation that is transpiring prevents all digestive and assimilative work, as the exosmotic current has drawn off all the liquids that contribute to digestion. Only the water administered to the patient in great abundance, by occupying the stomach and intestine will be able to oppose a mechanical obstacle to the pathological exudation, in turn to be absorbed by the mucosa, since it requires no digestive work, but penetrates to the

* Read before the American Public Health Association, Chicago, October, 1893.

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circulatory current by the simple act of imbibition, going to restore to the blood the water lost, and helping the skin and kidneys to eliminate the poisons that circulate through the whole body. In this physiologico-pathological consideration is founded the most efficacious curative method for infantile cholera, that proposed by Luton, of Réims.

All of us physicians who practice in Queretaro, Mexico, have employed it for many years, and we are witnesses of its marvelous results. We have the conviction of having saved by it innumerable lives, producing veritable resurrections; even we are amazed, when we find cases in a state of collapse—wasted, cold, pulseless, breathless, without strength even to cry, with the mouth dry like parchment—to see them returned to life by a simple glass of cold water. It causes amazement to see them from the moment they hear the precious liquid being poured in the glass, open their almost closed eyes and direct their little hands toward it as though they would like to snatch it from us. Then they drink away without satisfying themselves, stopping only to take breath and then on, until they drain the last drop from the glass. After a few minutes they generally vomit all the liquid they have drunk. If water is again offered to them, they turn to drink it with the same eagerness, falling directly in a tranquil and refreshing sleep. Generally they do not vomit again, and from that moment you can consider success assured.

On awakening it is found that the aspect of the little patient has changed completely. The features are already animated, the heat of the body begins to reappear and the pulse begins to make itself perceptible. This most simple of treatments which once undertaken ought not to be abandoned, consists in the absolute suppression of all food and medicine for twenty-four hours, or at the most, forty-eight hours, and administering pure cold water in abundance.

Afterwards, the only thing that remains to be done is to turn gradually to a convenient alimental regimen. A small quantity of milk is added to the water, increasing it little by little until by the end of three or four days, nothing but pure milk is given. If the complete cure is not made in this short space of time, it is a sign that the milk is doing harm and ought to be suppressed completely, substituting rice gruel, a food at the same time nutritive and constipating.

Let me strongly call the attention of this assembly to this point, the suppression of milk in cases of diarrhœa. Although the milk regimen is advised by the greatest practitioners as the most adequate in gastro-intestinal diseases, at times it is not tolerated and the evil continues in spite of the best of treatment until the milk is abandoned, replacing it by various gruels, principally of rice. This assertion is based on my already large practice, both in my own family of ten children, and in my clientele of twenty-five years.

Even the milk rendered sterile by repeated boilings, gives equally unfavorable results, perhaps for the great tendency that it has, like all organic substances, to decompose, especially in hot weather.

When once the acute period of the disease has passed, nitrate of silver in solution (5 centigrams to 50 grams of distilled water) may be prescribed, calomel in very small and repeated doses, or the most powerful antispetic that we know, bichloride of mercury in the form of Van-Swieten's liquor, six drops every four or six hours, in a mixture of equal parts water and mucilage. Opium, bismuth, and especially salol, which gives most brilliant results, will complete the treatment.

Very important details during the critical period are:—the keeping of the child in the most complete quietness, not permitting it to sit up even to vomit; giving it water in a clean sucking bottle; covering the body with blankets and placing bottles of hot water round the patient to give him heat. If any indication should present itself where it would be necessary to stimulate the heart's action, salt water injections may be given, in the proportion of 6 per 1000, in the subcutaneous cellular tissues, by means of a small exploring syringe.

A very important point, and one that should never be forgotton, is that the disease is very infectious and, for that reason, every precaution ought to be taken to avoid transmission to other children and even to adults. Contagion will probably take place by the dissemination in the air of the vomits and evacuations drying

on the cloths and contaminating the foods and drinks.

In the Mexican Medical Congress that took place last year in the Capital of the Republic, I presented a paper on the treatment of Asiatic cholera, based on the same principles I have expounded to combat infantile cholera. Happily we have not had an opportunity of trying it, but I think that if cholera should make an appearance, a trial ought to be made; more so, seeing that there does not exist any proper treatment against a disease so terrible. One half of all cases attacked (more or less) terminate fatally whatever may have been the curative method employed. Until now, only the energetic, preventive measures employed in the United States and Great Britain, have given satisfactory results.

Therapeutics are important once the disease has declared itself. The reasoning that I expounded in that medical reunion was the following: Asiatic cholera is a disease analogous to summer cholera to such a degree that they are often confounded. Both are of microbic origin, they breed in the same season of the year, and never, or very seldom, in winter. The clinical features are identical in the two diseases and the death rate is almost equal in both. If then we cure infantile cholera so efficaciously with the method that I have described, it is possible, and I believe I can say it is probable, that it may be applied to the other with equal or like success. Although they may be two distinct morbid entities, that should be no reason why it would be absurd to apply the same treatment when they have between them such a common affinity.

Typhus exanthematicus and typhoid fever, two diseases although distinct, have great analogies and are susceptible to the same treatment, and so, like this, other examples can be found.

The recent summer epidemic, which in some localities has been very severe, has served to confirm the existence of the microbe that originated it and the pathological alterations of which I spoke at the beginning.

I have the firm conviction that the American Public Health Association would do a true service to mankind if they would deign to give their high approbation to the simple method of which I have spoken, which can be reduced to the three following precepts:

1. To suppress all nouishment and medicine for one or two days.
2. To give at discretion pure cold water.
3. To return by degrees to a rational regimen.

These precepts should be recommended to the infant protective societies, nursing institutions, lying-in hospitals, etc., and, in a word, it could be made known everywhere by every possible means. This Association would only have to say the word and it would very soon be adopted in the three great countries which it represents.

VENESECTION IN ACUTE RHEUMATISM INVOLVING THE GRAVID UTERUS.

E. M. FUREY, M. D., Norristown, Pa.

Mrs. G., born in Ireland, forty-two years of age, mother of eight children, all living and in good health, the youngest of whom is four years old. She had always enjoyed good health until early in May when I was called to attend her. She complained of nausea and general lassitude. She had been losing flesh and was much debilitated. She had menstruated but twice since the birth of her last child, the last menstruation being nine months previous, and she feared that she was pregnant. At her request I made a vaginal examination from which I concluded her fears were groundless. She had previously consulted another physician who told her at first that she was pregnant and subsequently assured her that she was not. I prescribed for her symptoms and she improved to some extent.

After a few weeks I was called again. She then complained of pains in the thighs, changing to the body of the uterus, and being prominent in the subumbilical region. The pain was greater upon pressure and the patient was confined to the bed. She also suffered acutely from a dragging sensation that

ran from the loin toward the pelvis, thence to thighs and the external genital and sacral regions. It was at this time I discovered by external examination that she was pregnant, she was probably in the fifth month of gestation for her sufferings were much increased by the movement of the fœtus. The pains were not constant, and during the remission the patient would feel quite comfortable. But when the uterus and its ligaments were attacked, there was great recto-vesical tenesmus. There was a constant desire to urinate followed by a severe smarting sensation. There was some fever and at times great thirst. I diagnosed the case as one of acute rheumatism involving the uterus and its appendages, and feared the patient would abort. Her sufferings were so intense that she demanded instant relief. In order to prevent miscarriage I prescribed anti-rheumatic treatment with little if any improvement. I then resorted to the anti-phlogistic lancet and bled the patient freely. She immediately expressed herself as being relieved of the pain as if by magic. I had at once won the confidence of the patient and her friends.

Never before in my experience had I met a case of acute rheumatism involving the gravid uterus and its appendages. Nor had I ever read of one. Yet after due reflection, considering the structure of the uterus, there should be no great surprise. Is is claimed by most authorities on the subject, that it is extremely rare. This phase of the disease has been studied by German and French clinicians, and has been ably discussed by Salathe, in a thesis to the French Academy. Most of the German authorities attribute this double recto-vesical tenesmus to a rheumatic affection that is not always exclusively limited to the womb, but which also invades the neighboring organs. That its influence upon gestation is varied and may give rise to premature delivery. The pain may be mistaken for normal labor; we may have dilatation of the os uteri, but abortion is not so frequent as might be supposed, at least this is the language of those who have made a particular study of this disease in its varied manifestations. "Its influence upon labor is to retard its progress and arrest the spontaneous expulsion of the child, and it likewise affects the expulsion of the after-birth by the irregular contraction of the organ. It diminishes the lochial discharges and the lacteal secretions, and is accompanied by acute and persistent abdominal pains which may be mistaken for peritonitis which does not exist."

The mode of treatment which was followed in this case and which gave such instant relief, is likely to be criticised by my medical brethren of the "anti-bleeder" school who like most fanatics never reason clearly because of obscured mental condition, in reference to any particular subject which they have sealed with disapprobation regardless of all the law and the facts. It is for these extremists that I have recorded this case, that they may profit by the experience of the bleeders of the present day and not be forever holding up to censure the errors only of the bleeders of all ages. In reference to the bleeders of the past, I think it was their judgement that was at fault, and this coupled with a crude physiological knowledge of remedies has brought the lancet into disrepute.

Samuel Gross used to say, "The profession is like a flock of sheep, where one jumps all follow." He also said "that when the profession gets its balance it will come back to rational bleeding." If medical history is to be believed, it seems to me the remark of the learned Professor is very pertinent, as the "balance" of the profession in general seems to have been very frequently disturbed, much to the detriment of suffering humanity. It is difficult to imagine that such men as Gross, Da Costa and that famous knight of the lancet, Dr. Hiram Corson, could have been misled in active practice for more than a half century. It follows, therefore, that rational bleeding is a therapeutical remedy of great utility and more attention should be paid to the subject by the faculties of our medical institutions. The arterial sedatives that are so highly and persistently extolled by the manufacturing chemists (who to-day seem to be striving to lead the profession), and which are also endorsed by the anti-bleeders, are of great value in many cases; but their field of usefulness is limited and they can never supplant the use of the lancet. No amount of theory can be balanced in the scale against practical experience.

OURSELVES AS OTHERS SEE US.

S. S. TOWLER, M. D., MARIENVILLE, PA.

Some one, I think it was Henry Ward Beecher, has said—"Many a man thinks he has religion when he only has dyspepsia, and many a man thinks he is going straight to the devil when he is only bilious."

Some things have happened now and again in the experiences of the past, that lead me to suggest in this brief paper that, more or less frequently, the diagnosis is wrong because the practitioner has dyspepsia, and the prognosis gloomy because the doctor is bilious. How often have we seen the generally bright physician mistaken in the most unaccountable manner, and how often our own ideas have undergone a complete change, without a restudy of the case or apparent cause. To-day your medical friend prescribes well and accurately, next day or next week, he mixes things up worse than a compounder of "patent cure-alls." To-day your patient or mine, is given scant courtesy and cold comfort, to-morrow, the same patient in the same condition is given attention and a hopefulness that does him a "world of good." And you and I thought on each of the separate days that we were doing the correct thing. How much was *our* stomach, and *our* liver to blame for the difference in the patient's condition from our own point of view. Is a practitioner, whose stomach is rebelling against his own foolishness, in a fit condition to judge nicely of the infirmities of his patient—Is the doctor with a torpid liver capable of making a cheerful prognosis—As a rule I don't believe he is, and I have no doubt that our own physical condition has much to do with the success of our treatment, though the ailment—personally—may be so slight as to pass unnoticed, except by the thought of, "I don't feel well."

I don't propose slopping over in a long-winded article 'analyzing' this condition, I simply want to draw attention to it "for the good of the Order," on the principle that we learn by "line upon line, precept upon precept, here a little and there a little, etc."

The great and good surgeons and gynecologists of the day, insist that personal cleanliness of the surgeon himself is of vital importance to successful operation. Let us carry the idea still further and learn that personal healthfulness—a clean stomach and an active liver—are of vital importance in the line of general therapeutics. Let us go a step further and learn for ourselves, that if we would be the educators in hygiene, etc., that we claim to be, then example must follow precept. This means that, indigestible trash, no matter how "toothsome," must be banished from our table, side-board, banquet and reception, and with it should go by all means "old Frumenti," and all his kindred spirits. It means that, *our* back yard, *our* alley, *our* vaults, *our*selves and *our* belongings must be kept consistent with our teaching and advice to others.

There is nothing new in this (more's the pity) that so little attention is paid to knowledge acquired. Hundreds of physicians have read the editorial, "The doctor and the cook." If ten per cent. of them put it in practice, there will be more stars in professional crowns than the editor ever fondly dreamed of. Said an elder in the church, "had it not been for the inconsistencies of christians themselves, Christianity would have swept the world long ago." So with "ourselves," had it not been for personal and persistent violation of our own code, we would have doubled our power for the physical good of our generation.

What student fresh from fields and woods, doomed to six hours of lectures, *per diem*, in a poorly-ventilated room, goes out of it with a clear idea of two per cent. of what has been uttered, and in my student days, woe to him if the Professor caught him napping. A recollection comes to me now, of a wag punching his sleepy neighbor in the lecture room, with his elbow and the remark, "Wake up Jim, you have just missed one of the old man's real nasty stories."

What practitioner cannot recall, (if he is honest with himself) the fact, that, his own supper was more to blame for the weary hours and his own crankiness beside the slow obstetric, than any "fool-

ishness of the patient. How many doctors blame the out-house vault for the fatal ending of the case, when their own is in as bad condition. How many "scold" the patient for undue exposure, when they, themselves have not thought enough or pride enough, to mend the soles of their own shoes. How many talk about—"no wonder she died with so much dirt in the house"—when their own office is akin to a poorly kept pigpen. What importance can a doctor expect to be given by a patient to his directions as to "diet," while he is a persistent violator of his own rules, or what lasting impression can a professor make on his students when he, and all the rest of us in the Fraternity with him, show contempt for the advice given, at the next Society banquet.

We all have been greatly concerned that the coming medical man should be more competent than he of the present and, what with the new Examiner's Bill and improved methods of teaching in the colleges, the State Society may be fairly said to have done its duty by the practitioner of the future.

Now suppose we take a survey of ourselves and see if we cannot be more of a power for good, and advance the dignity of a great profession by personal and collective consistency.

Every thinking man knows that, no course of lectures, no matter how ably delivered; no clinics, no matter how expert the demonstration; no bedside exposition, no matter how clearly brought out, can give a man good judgment or sound common sense. BUT there is one thing we *can all do*, and that is this—observe our own dietetic and hygienic laws personally, and give what brains we have a chance.

Let us be *practitioners indeed.*

SOCIETY REPORTS.

TWENTY-FIRST ANNUAL MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION IN CONJUNCTION WITH THE INTERNATIONAL CONGRESS OF PUBLIC HEALTH.*

INAUGURAL ADDRESS of the President, Dr. T. H. Durgin, of Boston.

The great trust which the Association took upon itself twenty-one years ago has been worthily held, and the work to which it has addressed itself in the interest of humanity, has been diligently pursued. It is fitting, perhaps, at this time, when we may be said to have attained our majority in years, to take a retrospective glance of public sanitation, and to note the possible results of its application in the relief of human distress. The work of the sanitarian is manifold, and deals with the most vital of our personal and social interests. It deals with the air we breathe, the food we eat, the water we drink, and with the general welfare of mankind. It means the investigation of the rise, progress, and decline of epidemics, and the fostering of the growth of works and projects designed to prevent and remove the causes of disease.

The sanitarian concerns himself but little with the cure of disease. The problem which he seeks to solve is how disease can be averted. The pathologist establishes the nature of morbid processes, and his investigations suggest to us the appropriate remedy. The aim of the sanitarian is to seek out and remove the cause or causes which produced these processes. It has been said that preventive medicine embraces everything which relates to the physical well being of our fellowmen, so that it has to deal with all physical evils and, incidentally, many of a moral character. Its object is the health, and therefore the happiness and prosperity of man.

In Mexico it has been shown that sanitary science must have reached a high degree of perfection in its history. Previ-

* Abstract of papers read before the Joint Sessions of the Congress, Held in Chicago, Illinois, October 10, 11, 12, 13, and 14, 1893.

ous to the conquest of the country by the Spaniards, the towns were thoroughly and efficiently supplied with water by the most perfect system; but the teachings of these early times were not permanently effective. The magnificent civil works were doomed to suffer ruin, and the world passed through dark ages of mental and physical barbarism.

The question of private or house drainage is more complex, and should be constructed only under regulations prepared by competent sanitary engineers, by plumbers who have shown their competency for such work to a proper board of examiners and have been licensed therefore. The material for this work should be strong, tightly jointed, securely trapped and ventilated above the top of the house.

In the City of Boston our private drainage, like that in most cities, is unsatisfactory, and the cause of an immense amount of inspection, complaint and annoyance, and undoubtedly the cause of much ill health. We have statute laws and city ordinances which specify the method, material and workmanship necessary for the construction of house drainage. Plans for construction and repairs are submitted to, and the work approved by, the inspector of buildings. The board of health is called upon to find defects and to order repairs, and such repairs each year number about 4,500.

For the purpose of ascertaining to what extent defective conditions of plumbing exist, and to what extent traps are supplied and water closets substituted for privy vaults, we have taken a large number of blocks of dwellings, both new and old, each season for thirteen years, and made house-to-house inspection.

The construction and care of our public and private streets have a sanitary side to be considered, especially when we remember the considerable proportion of the area of our cities which they occupy and the frequent unsanitary condition in which we find them. While the construction of streets is almost purely a matter for the engineer, the health officer has frequent cause to complain of their filthy condition. Most streets in all cities present a more or less unclean and offensive surface. This condition may be due to a faulty pavement, want of pavement or a lack of care, supported by the popular notion that an unclean and muddy condition of the streets has no appreciable effect upon the public health. Macadamized streets where much used, are unclean and offensive most of the time.

It is a common thing to find on death certificates instead of the morbid process which caused death, such indefinite information as "disease of bowels," "disease of brain," "disease of skin," "stomach disease," "ascites," "convulsions," "dropsy," "fever," "debility," "teething," "inflammation," "infantile," "heart failure," and other unlikely causes too numerous to mention, and which ought never to be used upon the records as causes of death.

In his own city, such certificates are rejected, and a competent physician sent to view the remains and consult the family or friends of the deceased for information with which to make a proper certificate.

It is to be noted, however, that information gathered in this way cannot be regarded as wholly trustworthy and often results in the statement of "unknown cause of death."

The mention of cholera, like that of smallpox, strikes terror to the people of this country, and while the deaths from these diseases are infinitely small, the fear of them has served the municipal health officers in securing almost unlimited facilities for their prevention and control, which means may be largely converted to to the care of other more common and destructive contagious diseases.

Consumption, the most destructive malady to the human race in our country, has received the necessary attention of the bacteriologist. He has demonstrated to us satisfactorily, the cause of the disease, the methods of its transmission, and the means for its prevention.

He is sorry to say that as practical workers in public sanitation, we have sadly neglected to apply the means which we believe would prove effectual in largely abating the prevalence of tuberculosis.

The isolation of all persons suffering from consumption, would be impracticable and perhaps unnecessary, but the use of small sputa cups containing a disinfectant at home, and bits of absorbent napkin used and securely concealed in traveling, to be burned or otherwise disinfected on returning, should at least be urged by

public health officers, and popularized as much as possible.

Earth worms it was urged bring to the surface bacilli which infect the dead body, and in dry weather they may be inhaled in the form of dust. This, it is suggested, is the reason why the health resorts of the south of Europe are centers of tubercular contagion.

Drs. Lortet and Depugnes, of Lyons, related cases of such infection, and described experiments which they made which led them to demand obligatory cremation. They mixed the sputa of consumptives in earth which they placed in pots. A month later the worms in them were tubercular, and the earth they passed through communicated the disease to animals.

Tenement and lodging houses are subjects for the constant watchfulness of the health officer, and they are too frequently found in an overcrowded and filthy condition. They are principally occupied by the poorest classes of people, including the newly arrived emigrant, whose habits of cleanliness are of the lowest order.

Turning, in conclusion, from the more onerous everyday duties of the municipal health officer to topics of greater popular interest, we find an increasing growth of public sentiment in all parts of the country favoring the municiple provision of large public parks, free public baths, small open spaces and open air gymnasiums for the enjoyment and sanitary welfare of the masses of people whose whole time is spent in the toil of our large towns and cities.

REPORT OF THE COMMITTEE ON RESTRICTION AND PREVENTION OF TUBERCULOSIS.

This report was read by the Chairman of the Committee, Dr. J. N. McCormack, of Bowling Green, Kentucky. The Committee offered as its report the following conclusions and recommendations.

1st. Tuberculosis has been conclusively demonstrated to be contagious, by bacteriological experiments, by clinical observations and by a study of the history of the disease.

2nd. Tuberculosis is a preventable disease. Its preventability follows as a logical sequence upon its contagiousness, but has likewise been demonstrated in practical life.

3rd. The contagium of tuberculosis resides entirely and solely in broken down tubercular tissue. A person suffering from tuberculosis therefore does not become a source of danger to others until he begins to give off broken down tubercular tissue either in the form of sputa from the the throat or lungs, diarrhœal discharges from the bowels, or matter from a tuberculous sore such as lupus, white swelling, cold abscess, scrofula or tubercular inflammation of a joint.

4th. A person suffering from tuberculosis can be made entirely harmless to those about him by thorough sterilization of all broken down tissue immediately upon its being given off. With proper precautions it is therefore possible to live in the closest relation and upon the most intimate terms with consumptives without contracting the disease.

5th. Tuberculosis is not hereditary. A predisposition to the disease can be transmitted from parent to offspring, but this is no more true of tuberculosis than it is of all other contagious diseases.

6th. A predisposition to tuberculosis can be created anew by malnutrition or by anything which depresses the nervous system.

7th. Tuberculosis affects animals as well as man and is identically the same disease in both. In domestic life human beings and animals mutually infect each other.

8th. The media through which human beings are ordinarily infected by animals are milk and meat.

9th. Houses in which consumptives have lived and in which immediate sterilization of all brokon down tissue has not been practiced, are infected houses and are liable to convey the disease to subsequent occupants.

10th. Spitting upon floors and into handkerchiefs and permitting the broken down tissue to dry and become pulverized, is prolific cause of spreading tuberculosis.

11th. Temporary occupation of hotel rooms, sleeping-car berths, and steamer cabins by consumptives in the infectious stage can infect them so as to convey the disease to subsequent occupants unless proper precautions are taken against contamination of the bedding, furniture, and walls with broken down tubercular tissue.

We recommend the following practical measures for the prevention of the disease:

1st. The notification and registration by health authorities, of all cases of tuberculosis which have arrived at the infectious stage.

2nd. The thorough disinfection of all houses in which tuberculosis has occurred, and the recording of such action in an open record.

3rd. The establishment of special hospitals for the prevention of tuberculosis.

4th. The organization of societies for the prevention of tuberculosis.

5th. Government inspection of dairies and slaughter houses, and the extermination of tuberculosis among the dairy cattle.

6th. Appropriate legislation against spitting into places where the sputum is liable to infect others, and against the sale or donation of objects which have been in use by consumptives unless they have been thoroughly disinfected.

7th. Compulsory disinfection of hotel rooms, sleeping-car berths and steamer cabins which have been occupied by consumptives, before other persons are allowed to occupy them.

[The reports and recommendations of the Committee were adopted.]

TROPICAL DIARRHŒA,

by Sir Joseph Fayrer, of London, England, and read by Dr. Gihon.

This is a form of disease which is generally, if not always, the result of tropical and climatic influences, and the debility and cachexia induced thereby. It is now not infrequently observed in Europe, owing to the ever-increasing means of communication with foreign countries. It is apparently generally confined to adults, is insidious in its onset, slow in progress, and often, when not arrested sufficiently soon, fatal, owing to irreparable degenerative changes.

It has been described by many observers both English and foreign, in India, China and Cochin China, and Batavia. Most of the cases seen in this country come from China, India or Ceylon. In India it is met with frequently, where a form of it is known as "hill diarrhœa," from its proneness to affect dwellers in hill stations, especially those who have previously lived in the plains; atmospheric changes, vicissitudes of temperature, greater altitude, rarified atmosphere and possibly water being concerned in its causation. Some authors consider it a distinct disease from the white flux, which may be seen in any part of the country, but they are so much alike as to justify the belief in their identity, at all events for practical purposes. Occasionally there is a resemblance to certain forms of chronic dysentery; the two conditions may be associated or one may merge into the other.

Tropical diarrhœa occasionally makes its appearance years after the subject of it has returned from the tropics. It not infrequently begins without any previous apparent derangement of health, though it is sometimes preceded by dysentery, diarrhœa, some indication of malarial infection or functional derangement of the liver or other abdominal viscera, and is not noticed until excessive soreness of the tongue and loss of strength and wasting reveal the gravity of the condition.

Semeiology. This form of diarrhœa may begin with simple looseness of the bowels, or may supervene an ordinary diarrhœa or chronic dysentery. The action produces a sense of relief. The dejecta at first may be natural and bilious, but gradually becomes light-colored, frothy, pultaceous and copious. As the disease advances they are occasional tinged with blood, and the sufferer becomes more attenuated, exhausted and incapable of any prolonged exertion. The appetite may be good, but rawness and tenderness of the mouth and tongue frequently accompanied by aphthous spots and ulcerations interfere with its gratification.

Treatment. From the insidious character of the disease, tropical diarrhœa not infrequently gains ground before radical measures for its relief are resorted to. Successful issue depends much on the patient's resolution and perseverance in carrying out instructions. Alternations of temperature, errors of diet, fatigue or excitement, exertion, mental or physical, should be avoided. Physiological rest should be insisted on.

There is a tendency in the earlier stages to get well. The object is to favor this tendency and not thwart it by neglect of precautions. Diet it the most important consideration and must be strictly regulated and adhered to; and scarcely less important is the question of clothing, habits and mode of life.

Milk *alone* should be the only diet, and it must be given in small quantities often

repeated, say from 4 to 6 ounces every hour, day and night. Larger quantities at longer intervals will not do. When in the 24 hours an adult is able to take 3 to 4 quarts of cow's milk in this way, ample nourishment is afforded to support his strength and to enable him to recover.

This method of treatment was begun by the author before leaving India in 1872. After prolonged experience and trial of all other forms of remedies, he has found it more effective than anything. It seldom fails except in the very advanced and chronic cases, or in very aged persons. The conclusion arrived at is that though drugs are generally of little avail, if milk, taken as prescribed does not succeed, there is but small chance that any other form of treatment will do so.

THE SEWAGE DISPOSAL PROBLEM IN AMERICAN CITIES,

by Mr. Allen Hazen, of Lawrence, Mass.

One of the striking features of the sanitary development of American cities is the very rapidly increasing number of places which for one reason or another are treating in some way their sewage. It is not so very many years since there was hardly a sewage purification plant in the United States, while at the present time there are some thirty municipalities in a dozen different states which give their sewage a more or less thorough treatment. Of these a number are in the far West where the sewage has a commercial value for irrigation which has probably been considered quite as important as the sanitary advantages secured by the treatment, but the greater number are in the East where a dense population and increasing desire for cleanliness in the waters of streams or lakes, and particularly in water supplies, has brought to an issue problems which as yet have scarcely received the attention of the inhabitants of the less thoroughly settled states.

There are two sewage problems which are entirely different in their nature, although the same remedies may often be applied to both. There is first the pollution of rivers and lakes to such an extent that they produce a nuisance to the people who live upon their banks, and secondly the pollution of water supplies by sewage. The first case is often that of a city upon the banks of a small river which becomes so reduced in volume in dry weather that the sewage may fairly be said to be the predominating element in its composition. Up to a certain point rivers are capable of taking sewage without causing a serious nuisance to the people who live upon their banks, so long as they do not drink from them, but when this quantity has passed, deposits are formed, decomposition sets in, and the stream is rendered foul in appearance and objectionable in its odor. The exact quantity of sewage which can be mixed with water without causing a nuisance varies with local conditions and can only be approximately estimated, but as long as the limit is not passed, and the bodies of water not used for drinking, the disposal of sewage by turning it into such water is entirely unobjectionable and by far the most satisfactory method possible.

Where the sewage of a town is entering the public water supply of a neighboring town, or worse yet, its own supply, the problem is entirely different. The removal of the organic matters of the sewage becomes of secondary, although still an important matter, while the removal of those germs of disease, which would otherwise work such mischief among the consumers of water, becomes the one important point.

The author then dwelt upon the possibility of sewage treatment by chemical precipitation, which he said was the same the world over. Local conditions are only of secondary importance.

The experiments undertaken by the Massachusetts State Board of Health at the Lawrence Experiment Station some six years ago, indicated that the local conditions in Massachusetts would allow the treatment of sewage upon land with even more favorable results both as to quantity of sewage treated and quality of effluent obtained, than had been supposed to be the case from a study of European practice.

It is impossible by any combination of chemicals to secure the purification which approaches even remotely the result obtained by land treatment, but when the problem is simply to keep the water into which the sewage flows reasonably clean, the result with careful manipulation is quite satisfactory. When, however, the treated sewage finds its way into the source of the public water supply, the effluent produced by even the most com-

plete chemical precipitation cannot be regarded as an entirely unobjectionable addition, and such water should be further treated by filtration before use.

THE COLLECTION AND DISPOSITION OF ANIMAL AND VEGETABLE WASTE IN THE CITY OF MILWAUKEE,

by Dr. U. O. B. Wingate, Commissioner of Health of Milwaukee.

As early as 1879, the city of Milwaukee began to grapple with the garbage problem, and it has been a long and serious struggle until a recent date. In the winter of 1891, and 1892, the State Legislature passed an act authorizing the Common Council of the city to enter into a contract for the disposition of garbage, with the advice of the Mayor and the Commissioner of Health. It was decided to let the contract for five years to a company who would build a plant fourteen miles out of the city, collect and remove to said plant all garbage, offal, dead animals, both great and small, and animal matter in the city of Milwaukee, including refuse matter from commission houses, etc., to said plant, in which they would dispose of it in a sanitary manner. This contract went into effect and the work was commenced in June, 1892.

The Company constructed a plant at an expense of some $110,000. They purchased a powerful steam barge for transportation; they put on fifty steel, air-tight tank wagons for collection, and two large covered wagons for the collection of large dead animals. Since the first of September, 1892, the plant has been in operation to the satisfaction of the city officials of Milwaukee, creating no nuisance or stench whatever that can be reasonably objected to in its location, and the collection and transportation of the material during that time has been fairly satisfactory.

DISPOSAL OF GARBAGE AND WASTE OF WORLD'S COLUMBIAN EXPOSITION,

by Col. W. F. Morse, of New York.

Since the meeting of the American Public Health Association two years since, marked progress has been made in the destruction of garbage and waste of cities by fire. Six years experience has shown this method to be of far greater value than any other, and improvements in furnaces and reduction in cost of operation have steadily made it more popular and useful.

England has now furnaces in every large city and the number is yearly increasing. This country is awakening to the value of this method, and it has been inspected and recommended at a great number of places. The most striking and effective work done in the world is at the World's Fair, where two furnaces of the Engle Sanitary Company have been at work since the first of May.

It was early seen that the sanitation of the Fair, the care of the health of the great multitudes resident and who would come as temporary guests, would demand the best, and only those which had been thoroughly tested, methods of providing for the drainage, and the collection and disposal of the great mass of daily accumulating garbage and organic waste. After the drainage was arranged, the question of sewerage disposal and garbage destruction came up. A contract was made with the Engle Sanitary Company of Des-Moines and New York, for two garbage cremators to burn 100 tons of sewerage sludge, garbage and stable refuse. These two furnaces were built in the Fall, and at the opening of the Fair were ready for work. They are in the extreme southeastern part of the grounds, near the Forestry building, back of the power house of the Intramural Railroad, employing the well known device of the Engle Company, two fires, one at either end, the one burning the mass of garbage on the grates, the other destroying the smoke, gases, and all results of this combustion. These furnaces have been in constant work every day since May 5.

The garbage is brought at night from 11 to 8 o'clock A. M., and placed at once in the furnaces. From 25 to 40 loads each of one ton, having sometimes ashes or water in large amounts mixed therewith. Everything goes into the furnaces, four horses, two camels, cows, deer, elk, pigs, goats, dogs, etc., all follow the same road and are burned with equal ease. No results can be seen from the chimney. A thin, invisible, carbonic acid gas, discharged at a temperature of 1000 degrees is all that results. No smoke, no odors. nothing that can be offensive is detected, Though in daily use an observer would not know any work was done, unless he

came to the building. At 10 A. M. the loads of sewerage cake begin to come. This is a thick, heavy, soggy, mass of lime, foecal matter, paper pulp, etc., with 60 per cent. of water mixed. The quantity varies from 10 to 18 or 25 tons, and is the most refractory material to burn yet found. The fires are oil fed by jets of air, a pressure of 12 ounces of air doing the same work that is done in the boiler house with 120 pounds of steam. The ashes are used by Exposition people for filling low places, though they have a value of $10 per ton for fertilizers.

There are six burners spraying oil, the whole using 37½ gallons per hour. The cost for fuel and labor is from 75 to 85 cents per ton for sewerage sludge and 50 to 70 cents for garbage.

At other places where these same furnaces are used, the cost is reduced by bringing to the furnaces the paper, sweepings, and all kinds of city combustionable waste, which makes fuel to burn wet matter, and reduces the cost 12 to 15 cents per cubic yard or 30 to 40 cents per ton.

Official reports from Savannah were read showing the cost for last eight months to be 11 cents per cubic yard.

The work has been continuous, no stoppage, no nuisance, performed under observation of thousands of persons, inspected by many interested in this work from abroad, and has met with deserved credit and favor from the Board of Administration.

By adoption of similar furnaces at four points in Chicago the whole garbage nuisance could be abolished, the same work done for the city that is here performed, at a reduced cost, and the vexed problem of garbage disposal settled and got rid of once for all. This is no theory or experiment. This company was asked to do this work because they had demonstrated elsewhere their ability. There are forty furnaces or more built by the Engle Company and in successful operation, more than twenty times as many as have been built by others, but this is the most successful instance of the destruction of garbage on a large scale that has been seen in this country.

HOW CAN WOMEN PROMOTE PUBLIC SANITATION?

by Dr. Sarah H. Brayton, of Evanston, Illinois.

As instructors in hygiene, nurses have a wider scope for sanitary reform than physicians, living as they do with the families they attend their opportunity for the diffusion of knowledge is greater. Undoubtedly there is much that women could do on health boards; there is more that they *must* do among their own sex to increase the sum of sanitary knowledge among all classes and promote intelligent cooperation with health authorities whoever they may be.

THE PROGRESS OF SANITARY KNOWLEDGE AMONG THE WOMEN OF ENGLAND,

by Lady Prestly, of England, read by Mrs. Henry Wade Rogers, of Evanston.

The author of the paper went back 20 years when she first joined the Executive Committee of the National Health Society, and attended the meetings in a small, dingy, draughty room in a house about as unsanitary as any to be found in London, and traced the progress made in sanitary science from that time to the present. The author would impress upon all mothers and those who are responsible for the welfare of others, the desirability of giving personal care and forethought, which alone can avert the consequences of unsanitary surroundings.

NOTES ON CHOLERA AND ITS MANAGMENT IN HULL, ENGLAND,

by Dr. John Wright Mason, Medical Officer of Health, in Hull; read by Dr. Charles N. Hewitt of Minnesota.

The first epidemic of cholera occured in 1832, but the total number of deaths from the disease did not exceeded 270.

On the 10th, of August, 1849, the great visitation of the disease commenced. The total number of cholera and diarrhœa victims during the invasion was 1860, being one in forty-three of the whole population of 11,000. Six hundred persons died from cholera alone in one week in September. The average age of the victims was from 30 to 36 years of age. Of the total number of deaths recorded, seventeen hundred and thirty-eight belonged to the laboring classes and one hundred and twenty-two to the wealthy. The greatest mortality occured in those parts of the town where the levels were the lowest, and in which the unsanitary surroundings were the most noticable. It is recorded by an eminent minister that

on one day—black Sunday—he himself interred no less than 43 bodies of his fellow citizens. The water supply was at that time obtained from the stoneferry waterworks, situated one and a half miles from Hull and two and a half miles from the mouth of the river, the water being obtained from the river Hull, the widespread character of the epidemic being greatly attributed to the impurity of the river water. Since 1846, Hull has increased both in wealth and population, and its area has been considerably extended. The number of emigrants passing through the port en route for America has averaged between 50,000 and 60,000 yearly during the past ten years. The infectious diseases (notification) act, 1889, has been applied to the port as well as to the urban authority. Measles was included amongst the notifiable diseases on the 10th of February, 1893.

Cholera follows the line of international communication, and with the modern increased facilities for rapidity of transit, so is the danger of its possible invasion increased by emigration or otherwise. England does not depend upon the false security of quarantine, but rather upon its sanitary administrations, and each district should be in such a state of sanitary preparedness that the disease if imported should not spread. The experience of 1892, during the epidemic at Hamburg, in those parts which are exposed, and possibly none more so than the port of Hull which was in daily communication with that cholera stricken city, must have inspired confidence in the public mind in this country and the continent of Europe, that medical inspection, the due regard for the rigorous inspection of all articles likely to convey infection, improved sanitation and efficient hospital equipment, were alone sufficient to arrest the progress of the disease. Our first line of defense against the introduction of cholera consists of the medical inspection upon arrival both by day and night, of all vessels from cholera infected or suspected ports, and should cholera have developed during the voyage amongst any of the passengers or crew, the removal of the patients to hospital and the isolation of suspected cases, and the detention on board the vessel of such persons who may be in a filthy or otherwise unwholesome condition, and who cannot satisfy the medical officer of health as to their place of destination.

The second line of defense against the possible introduction of cholera, or other diseases, should be well protected, and the early preparations against the means by which such diseases if imported, spread, should be studied, thought out and perfected in the interim, and not during epidemic prevalence and excitement. Special attention should be directed towards a pure and unpolluted water supply, the periodical and regular removal of all excreta and refuse matters in the midst of populations, the frequent flushing of all drains and sewers, the prevention of over-crowding, the systematic inspection of common lodging houses, and lastly, but not least, our food supplies.

Hull is essentially a privy town. The death rate of Hull from all causes for the ten years 1882 to 1891, averaged 20.7 per thousand. The death rate from fevers during the same period was equal to 1.26 per thousand, and for diarrhœa alone 1.10 per thousand.

The author then dwelt upon the management of cholera. The precautions which are adopted in Hull of what has been described as "the movement of a sanitary column," are as follows:

Immediately upon the receipt of a notification of cholera, or of sudden illness of a choleraic character, either by the medical practitioner in attendance, the sanitary inspectors or the police, the medical officer of health is communicated with and immediately visits the case, or in his absence his assistant. Should the case admit of removal, the horse ambulance, fully eqipped with trained men in attendance is immediately requisitioned by telephone. The assistant inspector of nuisance for the district in which in which the case occurs is forthwith acquainted and makes his appearance with a column comprising flushers, lime washers and disinfecting staff. He superintends the removal of the inmates of the house to hospital for the purpose of bathing and the disinfection of their clothing, the disinfection of the house, together with all articles of bedding, clothing, etc., which has been exposed to infection, and the destruction of such articles as may be ordered by the medical officer of health or his assistant.

The contents of the privy are removed to the destructor for cremation and the interior cleaned, disinfected and lime washed. The subsidiary drains in the immediate contiguity of the house are thoroughly flushed, and disinfectents are freely distributed in the neighborhood of the outbreak.

TUBERCULOSIS AND THE FOOD SUPPLY,

by Dr. D. E. Salmon, Chief of the Bureau of Animal Industry.

The author assumed without argument, as already established by scientific investigation, that tuberculosis is a parasitic disease, that it is caused by the multiplication of a specific micro-organism in the tissues of the animal body and by no other means. Of the two methods by which the disease is contracted with man as well as with animals, it may be admitted that the most frequent and, therefore, the most important, is the inhalation of the micro-organisms suspended in the inspired air. The speaker had no means of estimating the proportion of cases of tuberculosis which arise from infected food, but he was prepared to admit that tuberculosis of the abdominal organs and tubercular meningitis, particularly of children, were generally caused in this way. The author then considered infection through the milk supply and infection through the meat supply. Tuberculosis is one of the most common diseases of milch cows. It exists in many dairies, and may affect 50, 75 or 100 per cent. of the animals in large herds. We do not know the average proportion of cows infected in this country, but in the dairies around our large cities from three to five per cent. have been infected when diagnosis was made by the ordinary methods of examination. In the United States we have no statistics of the results of the tuberculin test except with herds known to be tuberculous. Fortunately, the milk from all tuberculous cows does not contain the bacilli. When there are tubercles in the udder, however, the milk may contain immense numbers of these germs, and this is particularly the case if the tubercular mass softens and its contents escape into the milk ducts? The milk from cows so affected must be considered an extremely dangerous article of food.

The prevalence of tuberculosis in dairy cows can be lessened and the danger from infected milk diminished by a careful and periodical inspection of the herds from which the milk supply is obtained. This inspection must consist not only of a physical examination, but must also include the tuberculin test. There must in addition be some means provided for securing the destruction of animals found to be tuberculous.

SYPHILITIC INFECTION AS A VEHICLE OF THE COMMUNICATION OF TUBERCULOSIS,

by Dr. Manuel Carmona y. Valle, of Mexico.

The author of this paper cited the history of a case demonstrating the possible association of the syphilitic virus with the pathogenic agent of tuberculosis, and the possibility of transmission not only of the syphilis but of the tuberculosis also. He had found in the ulcerations of the throat both characters.

THE INFLUENCE OF HABITATIONS IN THE PROPAGATION OF TUBERCULOSIS

by Dr. Manuel Gutierrez, of Mexico.

Pulmonary tuberculosis is more frequently observed in the United States than in the Republic of Mexico. The statistical records give a proportion of from 118 to 120 per thousand in America, while in sunny Mexico it does not reach the number of 60 to every thousand. One of the causes which contribute to produce so notable a difference in the propagation of so dangerous a disease, is the difference of the elevation in both countries, because we know that dry air is not a vehicle for the multiplication and generation of the bacillus of Koch and the relative rarefaction of the air is in a direct ratio to the elevation. Mexico being 2257 meters above the sea level, it is consequently not difficult to explain its superiority in arresting the conditions favorable to the propagation of a disease which undermines so many constitutions.

The author's attention has been called to the fact that not only in the hotels and public establishments, but also in private dwellings in the United States, there are rooms constantly illuminated with artificial light and in which the light

of the sun never penetrates. The individuals who work therein are deprived for many hours of the beneficial action on the economy that we know solar light exerts, and we know that this privation and the special conditions that accompany it can contribute to the development of tuberculosis by producing (1) the anemia and its consequent state of malnutrition, preparing the ground that serves for the cultivation of the germs of the disease; (2) Increasing considerably the temperature of the place illuminated, constitutes also a propitious cause of multiplication of the pathogenic principles involved in the tuberculosis process.

PROPHYLACTIC AND THERAPEUTIC VALUE OF FOOD,

by Mrs. Ellen H. Richards, of Boston.

The prophylactic value of food is to keep the human body in a high condition of health. The main object to be gained is to establish a higher standard of health in the community, to make as widely known as possible the fact that most of the ill-health now prevalent is needless; that a little self denial, a little more attention to the rules of hygiene, a little more living in the open air would cause a large number of the diseases now so common to disappear.

HYGIENE OF HAIR DRESSING AND BARBER SHOPS,

by Dr. Angel Contreros, Pueblo, Mexico.

The disease which persons are most liable to contract in barber shops is scurf, and the author therefore touched on what appeared to him the most important points in the consideration of this matter. Scurf is understood to be a disease of the capillary system caused by the presence of vegetable parasites. The disease can be transmitted by some animals which already have it; but the contagion most commonly takes place from person to person; and in families, in educational establishments, and in barracks the disease assumes an endemic character. Several times the center of this propagation has been found in a hair dresser's or barber's shop and has arisen from the use of instruments which have been badly cleansed. Barbers and hair-dressers ought therefore to be very careful in cleansing the utensils which have served for one person before they are employed on another. All the utensils should be subject to the action of heat for a space of ten minutes in a vessel or receptacle at a temperature of 120 degrees, and the razors in an oil bath.

THE WATER SUPPLY OF CHICAGO, ITS SOURCES AND SANITARY ASPECTS,

by Arthur R. Reynolds, M. D., Commissioner of Health of Chicago, and Mr. Allen Hazen.

The extensions of the various tunnels within the last two years have undoubtedly secured for the city a water less liable to sewerage pollution than was formerly obtained. The available analyses of the water are perhaps inadequate to measure accurately the improvement, but fortunately we can apply that most satisfactory of all water tests, the typhoid fever death rate. The improvements in the water intakes have not all been made at a single date, but if we compare the two years ending September 1892, and September 30, 1893, we find that during the earlier years the shore intakes at Lake View and Chicago avenue were in common use while the four mile tunnel was not yet opened, while for the greater part of the latter year the shore inlets were entirely closed and the four mile tunnel and the one mile tunnel at Lake View were in use. For the year ending Sept. 30, 1892, the number of deaths from typhoid fever in Chicago was 1,790 in total of 26,646, or a percentage of 6.72. For the year end- September 30, 1893, deaths from typhoid fever were 712 in a total of 26,977, or a percentage of 2.64. It is most unfortun- for this comparison that the old supplies were partly in use during the first few months of the latter year, before the four mile tunnel was opened. We may believe that if this had not been the case the comparison would have been still more favorable to the improved supply. It is a well know fact that people using a water supply to which they are not accustomed are often more susceptible to any infection which it may contain in than are those using such water regularly. A striking illustration was furnished by Philadelphia in the Centennial year, when the typhoid death rate was nearly doubled, while in Chicago the present year for the first five months of the Fair period the

rate has been less than half as high as for the corresponding month of the preceding year, and for the entire year under consideration, in spite of the vast numbers of visitors continually present, there has been a reduction of over 60 per cent. in the typhoid fever death rate. This reduction is most striking, and it can hardly be doubted that the improvements in the water supply have been the chief if not the only cause. As there is no marked local distribution of the typhoid fever, so there were no exceptions to the general improvement with better water supply. Not a single ward but showed a substantial reduction. Stronger evidence could hardly be produced to show the casual relation between the contamination of the water supply and typhoid fever. The mortality percentages from typhoid fever in a number of cities may be compared as follows: Chicago, 1892, 6.72, in 1893, 2.64; Philadelphia, 1892, 2.22; Boston, 1.22; Paris, 1.01; New York, .90; Brooklyn, .80; London, .49; Berlin, .42. The cities having the lowest typhoid fever death rate, London and Berlin, use only filtered water. London draws nearly all of its water from the two grossly polluted rivers the Thames and the Lee, and, after filtering it, supplies it to a population that is almost free from typhoid fever. It may be a question worth considering by the engineers whether filtration would not be as cheap and effective a means of improving the water supply as the farther extension of the tunnels.

REMOVAL OF PATHOGENIC BACTERIA FROM DRINKING WATER BY SAND INFILTRATION,

by Mr. George W. Fuller, of Lawrence, Mass.

That drinking water is a carrier of some diseases there can be no doubt. Numerous laboratory experiments by many investigators indicate that the bacteria generally attributed to be the specific organisms of typhoid fever, Asiatic cholera, and other diseases live in water for many days. The results of long-continued investigations at the Lawrence Experiment Station show that the typhoid bacillus is able to live in the water of the Merrimac river, in greatly diminished numbers, for a period of at least twenty-four days. Other investigators, using different water and different conditions, estimate the length of life of this germ at from three to eighty days. The duration of life of the cholera spirillum in various waters has been observed to be from two days to seven months. Modern hygiene demands that drinking water shall be free from pathogenic bacteria, and the means by which such water can be obtained are worthy of our most careful consideration.

During the past forty years many filter plants have been constructed in Europe and numerous experiments in the filtration of water have been made particularly during the past decade. This is largely due to bacteriology which enables us to determine the actual efficiency of filters with regard to the removal of bacteria. The operation of many filters is quite satisfactory, as is shown by the low death ratio from those diseases conveyed by drinking water and by the results of numerous bacterial analyses.

In summing up our present knowledge upon the removal of pathogenic bacteria from drinking water, we may state that in addition to the experience of certain European cities, the Lawrence investigations, covering a period of more than five years and including the bacterial examination of more than eleven thousand samples of water, indicate that it is entirely practicable to construct filters that will economically purify and remove more than ninty-nine per cent. of bacteria which may be present in the unfiltered water.

AN EXPERIMENT IN DISINFECTION. HOW AN EPIDEMIC OF PNEUMONIA WAS CHECKED,

by Dr. Jerome Cochran, of Birmingham, Ala.

The paper dealt with an epidemic of pneumonia checked by disinfection. The total number of cases during the epidemic was 93; total number of deaths 30, nearly one-third of the cases. The epidemic occurred in the prison at Pratt Mines, Alabama. The prison was divided into three sections, and while the disinfection was going on in one section the convicts belonging to that section were crowded into the other two sections. The mattresses were taken off, and these together with the blankets were scattered over the floor. Then by means of a force pump and a long hose pipe the ceilings, walls,

and the floors with their contents were literally deluged with a solution of bichloride of mercury, 1–1000, until the bichloride solution stood in puddles and ran in rivulets on the floors. The mattresses, etc., were turned over so as to be wetted as thoroughly as possible on both sides. Dr. Cochran has more confidence in the disinfecting power of heat than in the bichloride. The mattresses, blankets, etc., were therefore put into large steam chambers that had been constructed for the purpose and kept there for six hours, after which they were taken out and dried. In the mean time the disinfected wards were thoroughly scrubbed out, whitewashed and fitted up so that they could be occupied again the next day. The convicts, before they were returned to their old quarters, were required to take a bath and put on clean clothes. In one week the epidemic, attacked at the period of its most rapid increase, went out like a fire under a deluge of water.

A CONTRIBUTION TO THE STUDY OF YELLOW FEVER FROM A MEDICO-GEOGRAPHICAL AND PROPHYLACTIC POINT OF VIEW IN THE MEXICAN REPUBLIC,

by Dr. E. Liceaga, President of the Superior Board of Health, Mexico.

The author presented the following conclusions :

1. The places where yellow fever reigns and which can be considered as centers of infection are in the Gulf of Mexico, Vera Cruz, Frontera, Campeche and the Districts on the northern coast of the Yucatan Peninsula, the last named separated by the Yucutan canal from the Island of Cuba, where the fever also reigns. On the great Pacific Coast, which belongs to the Mexican Republic there is not a single yellow fever center.

2. All the Mexican territory on the Gulf of Mexico and on the Pacific Coast is well adapted for the disease when imported.

3. Yellow fever has become epidemic in the following places of the coast on the Gulf : Matamoros, Altamira, Tampico, Tuxpam, Papantla, Misantla, Nautla, Alvarado, Goarzavoalcos Minatitlan Lagang and San Juan Bautista de Tabasco.

4. The epidemic has extended into the interior, but never into places situated more than 1008 meters over sea level.

5. On the Pacific there is not a yellow fever center, but it has been imported into the following places : On the Peninsula of Lower California, La Paz y Todos Santos ; on the Continent, Guaymas, Altata, San Blas, Mansanillo, Santiago, Acaponeta, Puerto Angel, Salina Cruz, Tonala Soconuzco, Tapachula and San Benito, and in the interior in Hermosillo y Culiacan.

6. Immunity against yellow fever is obtained after having had the disease in any of its forms. It is possible that this immunity may be lost at times, but it is seldom the case as it happens with typhus, small-pox and scarlet fever, which may be had by a person who has had them.

7. The Vaccine of Jenner against small-pox and others which science has discovered, authorize us to look for the one that will prevent the yellow fever. The inoculations against this fever which Dr. Manuel Caramona y Valle has practiced with success should be tried on a large scale, in an uniform manner, in order to be able to find out if they are efficacious. If experience confirms it, then they should be made compulsory in the countries where the fever reigns. If they should not prove worthy, then the inoculation of blood serum, as proposed by Dr. Sternberg, from persons enjoying immunity, should be tried on a large scale and in an uniform manner.

8. The purification of the drinking waters used by persons who have to expose themselves to contact with the disease, should be recommended. The purification of the water used on board the ships leaving or calling at infected ports should be proposed.

9. The sanitation of the places which are yellow fever centers should be done at once.

10. To prevent, by means of sanitary police measures, the importation of fever into places where it can be developed.

HOW SHALL OUR LEPERS BE CARED FOR?

by Dr. Benjamin Lee, of Philadelphia, Pa.

The State Board of health of Pennsylvania and the Board of Health of the city of Philadelphia have had some unpleasant experiences with lepers which had led both of these bodies to appeal to the general government to establish a colony or

colonies, where these unfortunates might be provided with the comforts of home and medical care and nursing, and at the same time cease to be a menace to the health of those with whom they were thrown in close contact. The United States had only gone so far as to make the affection quarantinable at the seacoast and to order those found suffering from it on arriving vessels to be at once returned to the ports from which they came.

The American Public Health Association elected the following officers:

President—Dr. E. P. La Chapelle, of Montreal.

First Vice-President—Dr. Manuel Carmona y Valle, of Mexico City.

Second Vice-President—Dr. J. N. McCormack, of Bowling Green, Ky.

Treasurer—Dr. Henry D. Holton, of Brattleboro, Vt.

Permanent Secretary—Dr. Irving A. Watson, of Concord, N. H.

Place of next meeting—Montreal, Canada, October, 1894.

Note. Although the gathering was denominated an International Congress of Public Health, very few outside of the members of the American Public Health Association contributed to the proceedings. The bulk of the work was done by the members of the Public Health Association.

MORAL IMMUNIZATION.—Our associates in mind will appreciate the golden words emitted by the great German scientist, Prof. Virchow, in his lecture before the Royal Society in London, and which we give here without commentary.

"Who among us, he said, is not in need of friendly encouragement in the vicissitudes of life? Fortunately, real satisfaction is not derived from the applause of others, it resides in our own consciousness of honest work performed. How otherwise could we remain firm in the assaults of daily life? How could we preserve the hope of progress and final victory in the face of our opponents' attacks and of all the insults never spared to any one who shares in public life? He who has been exposed during a long and active life to public opinion, will certainly stand at last unjust criticisms with equanimity, but this is only the result of a firm faith in the goodness of our cause and in its final triumph. This is our hope in our struggle for the progress of science and art; this is our hope in the struggles for civil and religious liberty; and in this hope we become inured to malevolent attacks. It is a kind of immunization which, I admit, has its great inconveniences, for this hardening to unjust attacks may easily produce a similar indifference to just criticisms, and even more: as a result of the tendency toward contradiction inherent to the human mind, it may lead to indifference toward praise and acknowledgment. Our mind retires within itself, very often dissatisfied with the world and with itself. For who is so much above all attacks that a faint acknowledgment of the justice of the attacks of our opponents should not penetrate the hardest armor of the most obdurate self-esteem? Happy the one who has strength enough to maintain or recover his relation to his fellow-men and to participate in our common labor! Three times happy he who in this task is not missing the acknowledgment of competent fellow-workers!

Thoughts of this kind were filling my mind when with a view of the present occasion I look at my own life and at the history of our science—or, in other terms, the history of our predecessors. How often I found myself in a condition of pusillanimity with a pronounced feeling of depression. And in the history of science itself, what long periods of stagnation, what long interruption it has suffered from the triumph of errors! What saved me, was the habit of work which I never renounced even in the days of external misfortunes, the habit of scientific activity which always appeared to me as a recreation, especially after tiresome and fruitless efforts in political, social and religious fields.—*Ex.*

NUMBER OF BEDS IN THE HOSPITALS OF DIFFERENT CITIES.— New York, 11,000; Brooklyn, 2,000; Philadelphia, 6,391; Cincinnati, 3,000; Buffalo, 1,025; Albany, 447; St. Louis, 2,086; St. Joseph, 849; Kansas City, 516; Omaha, 617; Detroit, 762; Milwaukee, 667; Chicago, 4,684; Denver, 961; St. Paul, 522; Minneapolis, 325.—*Ex.*

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SATURDAY, OCTOBER 28, 1893.

EDITORIAL.

THE PAN-AMERICAN MEDICAL CONGRESS.

For years past American physicians and surgeons have neglected the opportunities, turned their backs upon the schools and clinical advantages of their own country and hastened across the water to sit for a few months at the feet of some *privat docent* whose language they *did* not understand and whose name they even could not pronounce correctly. This apparent lack of respect for and confidence in the institutions of their own country has naturally had a lowering effect upon the estimation in which we are held by citizens of our sister republics of Mexico, Central and South America. More unfortunate still was the fact that those who yearly went abroad for post-graduate study seemed to think that in order to show the great advantages occurring from a course of study in foreign schools it became necessary to decry those of their native land. A species of toadyism not confined to medical men.

The nations of the south not being as well developed as the United States were compelled to send large numbers of medical men abroad in order to secure that culture so necessary to a great or useful medical career. These students might largely have been brought to our shores had our institutions been properly appreciated even by ourselves. But finding that New York, Philadelphia and Chicago were ignored by their own inhabitants and a system of foreign worship inaugurated in every medical center of this country, they naturally turned their footsteps toward Paris, Vienna and Berlin.

Thus year after year have we missed the golden opportunity of planting a host of graduates from our best schools in the midst of our cis-Atlantic sister republics.

Foreign worship and French and German toadyism are not now rampant as in years gone by. It is even conceded by the worst of anglomaniacs that it is possible for one to get a finished medical education in America. Our great post-graduate schools in Philadelphia, New York and Chicago are opening to yearly increasing classes and their practical teaching is filling the country with a host

of practical men, whose increased knowledge and power make their services of immeasurable value to their friends. The prodigals who return from Vienna and Berlin find men educated at home very often much their superiors, and often they have to supplement an incomplete and imperfect course abroad by better instruction and more favorable opportunities at home.

We have long needed a great meeting of some kind to present ourselves medically to the nations of the South. Thanks to the energy and patriotism of Dr. C. A. L. Reed, the great Pan-American Congress furnished us the long needed and much desired opportunity. Our best schools and our best men are now thoroughly known in the distant republics of this continent, and we will be greatly disappointed if the knowledge does not lead to a great influx of students out from home in search of post graduate study. Surely they who went through the halls and over the grounds of the University of Pennsylvania, saw a school which for thoroughness of equipment, severity of curriculum, facilities for teaching and number and enthusiasm of yearly matriculants cannot be surpassed if equaled in any city of Europe. If we neglect not the advantages which this Congress and the World's Fair give us, students instead of going from will be coming to us.

Our surgery and gynecology and our obstetrics have already become so successful that the great operators of the old world are ashamed to quote beside it their own statistics, and it has long been recognized and admitted that unless one wishes to study pathology, everything that can be taught of lifesaving measures is here taught better and by better men than in any capital of Europe.

BACTERIOLOGICAL NOTES.

PATHOLOGY AND ETIOLOGY OF DIPHTHERIA.

Klein, in the supplement containing the report of the Medical Officers Local Government Board, London, 1891–1892, continues his investigation of diphtheria. The work of the past year appears to have been directed toward the pathology of the disease with special reference to the differentiation of it from membraneous croup of the larynx and trachea which are frequently associated with and indeed, derived from, membraneous diphtheria of the tonsils and pharynx. Besides these there are cases of membraneous croup of the larynx and trachea which seemingly are not connected as regards time and place, with diphtheria. The author proceeds to discuss the nature of diphtheria, its definitions, and cause. He considers the Klebs-Lœffler bacillus as, without doubt, the cause of the disease, and considers it of diagnostic value. This is in accord with the results of other investigators. Klein proceeds to discuss several cases of true diphtheria with croup and with scarlatina. He found streptococci in considerable numbers associated with the diphtheria bacillus in one case. From his investigations he draws the following conclusions:

1. "Membraneous croup of the larynx and trachea occurring concurrently with diphtheria of the fauces, is *true* diphtheria."

2 "The so-called scarlatinal diphtheria is not true diphtheria."

3. "Diphtheria of the fauces, as also membraneous croup, following some time after scarlatina, are both true diphtheria."

4. "Membraneous croup of the larynx and trachea without diphtheria of the fauces, may be of two kinds:—(a), true diphtheria (he cites case five in his investigation as an example); or (b), genuine fibrinous croup without presence of the diphtheria bacillus and therefore not true diphtheria."

THE IMPORTANCE OF THE SPLEEN IN THE PRODUCTION OF IMMUNITY AGAINST TETANUS.

Tizzoni and Cattani have conducted some very interesting experiments in which they have shown the importance of the spleen in the production of immunity against tetanus in rabbits. Although they could produce resistance in normal rabbits they could not in those that had had their spleens removed. In a more recent paper the authors have added much to the knowledge of immunity against tetanus. With the vaccine which they now have they can produce immunity in rabbits with two injections, the first of five cc, and the second of ten cc. With this vaccine they can render spleenless rabbits (spleens removed eight to fifty days previously) quite as unsusceptible to tetanus as normal ones, and the serum from these rabbits had as marked an immunizing effect as that from control vaccinated rabbits. These results are in accord with those of Orlandi in the case of rabies and by others in case of various other infections but they are contrary to the results first obtained by Tizzoni. At first quantities of immunizing serum which while they were able to protect healthy animals failed sometimes in animals that were weakened by bleeding or disease. In the present or later work, the material was much more powerful and it was also used in large doses.

From the above briefly mentioned results the authors conclude that removal of the spleen, in as much as it modifies the general process of nutrition, may have a certain influence on the development of immunity, an influence which makes itself known when material of limited power is used for immunization: but that the spleen in itself takes no part, direct and necessary, in the process of immunization itself, and that if the substance which actually produces immunity is a product of the animal organism and not the substances actually injected, which seems, however, in the light of recent work improbable, its formation does not take place in the spleen or at least in this organ exclusively. The authors think that the same fallacy led to the mistake of Foas assistant, Cesaris-Dunel who considered that the spleen played an important part in the production of immunity against pneumonia, a result contradicted later by Foa (*British Med. Jour.* Sept. 16, 1893) [In a subsequent number we hope to give a list of several cases of tetanus that have been cured by the use of serum from immunized animals.—ED.

DISEASES DUE TO STREPTOCOCCI.

In the *Centrablatt f Klin. Med.* August 19,1893,is an interesting article by Goldscheider on the streptococcus. He states that the pathogenic effect of this organism is due, at least to a great degree, to the accompanying conditions of invasion. It is a question whether severe streptococcus infections as in puerperal septicaemia or pyæmia or the pyæmia of diphtheria, are due to an especially virulent streptococcus or whether less harmful organisms are capable of developing more virulent properties. The investigations of the author are led to the conclusion that biological conditions of the animal body are of much importance in regard to the character of the disease produced. Clinical observations have shown that where necrotic tissue is present there is a special tendency to streptococcus diseases. These conditions were imitated experimentally by the author, when putrid cultures of streptococcus were injected subcutaneously into animals. Foci of pus appeared in various parts containing for the greater part pure cultures of the streptococcus. Cultures from the blood and kidneys also revealed that streptoccus and albuminuria was often present during life. The streptococci thus showed themselves to be the metastatic forming element while the bacilli of putrefaction (that were injected with the streptococci in the putrid culture) did not become generalized during life. In this way the virulence of the streptococcus could be increased and streptococci which had lost their destructive power could thus regain it. The

local pyogenic properties could also be intensified. Whether this occurs in the human subject is open to question but certainly there is a great resemblance in the conditions. The action of the streptococcus is assisted by the presence of the products of putrefactive micro-organisms. [Perhaps the most interesting part of this work is the further demonstration of the increase in virulence of bacteria by associating them with decomposed material. In 1892 Lesaje and Macargne (*Archiv de Med. Exper.* No. 2, 1892) discovered that *bacillus coli communis* became increased in its virulence when it was associated with diseased organs. The fact is well-known that streptococci are very generally distributed over the mucous membranes and if their septic properties are increased by any pathological change in the membrane on which they live they furnish additional dangers to the animal body. At most care should be taken to thoroughly cleanse all surfaces on which they exist when there is danger of rupture or the development or lodgment of diseased tissue.—Ed].

TRANSLATIONS.

THERAPEUTIC HINTS.*

IN CHARGE OF THE TRANSLATOR F. H. PRITCHARD, M. D.

SCOPOLAMINE HYDROBROMATE.

Dr. L. Illig (*Wiener Medizinische Presse. No. 38*, 1893), finds this drug to have a more rapid action, even in weaker solutions, than atropine, while in stronger solutions, it produces a greater dilatation of the pupil. Its duration of action, even in the strongest possible solutions, is much less than that of atropine. In case of idiosyncrasy with atropine it is an excellent substitute, as after long use no disagreeable disturbances nor side-action was observed. It is also of service in all those inflammatory ocular affections where atropine is contra-indicated on account of its increasing intraocular pressure. For diagnostic purposes cocaine is to be preferred.

PALPITATIONS IN ARTERIOSCLEROTICS.

Dr. Smakovsky (*La Semaine Medicale*, 55, 1893) recommends, in the palpitations of arterio-sclerotic patients from cardiac weakness, the following formula:

℞ Chloral Hydrate .....
Bromide of Sodium, ana .... gms. 4, (3j).
Codeine,..... cgms. 10 (grs. jss.)
Water .....
Syrup of Orange Peel ana.... gms. 45, (3jss.)

A tablespoonful every two hours until the heart becomes quiet.

In case of necessity one may give injections of morphine, $\frac{1}{10}$ gr. After th attack is once overcome then give small doses of digitalis or strophanthus.

*From the Foreign Journals.

AN EPILATORY IN SKIN DISEASES.

Dr. Butte (*Wiener Medizinische Presse* No. 38, 1893), speaks highly of iodized collodion as an excellent epilatory in certain skin diseases, as, for example, sycosis, and in the following formula:

℞ Oil of Turpentine..... gms. 1.5 (gtts. xxij).
Alcohol ..... gms. 12 (3iij).
Pure Iodine ..... cgms. 75 (gtts. xij).
Collodion ..... gms. 35 (3j).
Castor Oil..... 2 (gtts. xxx).

Apply once a day, for three to four days, when, on removal, the hairs will be found to have been extracted and adherent to the collodion.

CHLORIDE OF GOLD AND SODIUM IN BRIGHT'S DISEASE.

Dr. Dowkontt (*La Semaine Medicale* No. 55, 1893,) knowing that the chloride of gold and sodium was, at the same time, diuretic, diaphoretic and alterative, was led to try it in chronic parenchymatous nephritis where the skin is always dry and the urine diminished. This treatment he has employed for a number of years, with excellent results except in very advanced cases, or those complicated with hydrothorax or hydropericardium of ancient date. He uses the following formula:

℞ Chloride of gold and sodium.... gm. 1 (grs. xv).
Water..... gms. 60 (℥ij).
Six to twelve drops of this solution six times a day.

This is the adult dose. When the affection is complicated by gastro-intestinal disturbances it will be well to commence treatment with doses of two drops, and increase the dose as the digestive functions improve. The use of the drug should be continued until complete suppression of the albuminuria *i. e.*, in some cases, for months. The action of the remedy is slow and may require a month before it becomes manifest. It will be seen that the perspiration will increase with a diminution and final disappearance of albumen from the urine. In the writer's cases this amelioration was so great that the patients were able to resume their businesses and be considered as cured. In some of them no recurrence has been observed. Its curative action being very slow it can not be used in uremic cases, where rather drastic purgatives as calomel and jalap would be indicated. The alarming symptoms being removed the chloride may then be given. He permits his patients to follow a mixed diet in case that it be nourishing, easily digested and contain sufficient vegetables which seem to exercise a favorable influence over the organic changes of these patients.

TREATMENT OF ANTHRAX.

Dr. F. Goilav (*Roumaine Medicale* No. 4, 1893) describes a method of treating anthrax which he has used with success in fourteen cases. After washing the region of the carbuncle with a 4 per cent. solution of boric acid, he opens it with a crucial incision extending a half inch into the surrounding healthy tissue. No anæsthetic is necessary except in very nervous and sensitive persons, where three to four injections of a 1 per cent. solution of cocaine may be used. After opening, it is again washed with the boric acid solution and covered with crystallized boric acid over which is laid a piece of sterilized gauze and a bandage. Under the first dressing, which is allowed to remain on for twenty-four hours, the pains decrease in severity, the temperature falls, the general condition ameliorates and sleep and appetite improve. The next day the dressing is removed, the loose necrotic shreds removed, the carbuncle washed again with the 4 per cent. solution and covered with the crystallized acid. The second dressing remains undisturbed for five to eight days. In twelve of the cases three dressings were sufficient to bring about healing in seven to twenty days. Powdered boric acid is less applicable as it forms a mixture with the pus which hinders recovery. The advantages of this treatment are that it relieves the congestion of the tissues, exposes the pus cavity without opening many blood-vessels, is antiseptic and can be carried out without chloroform. It requires but infrequent change of the dressings, produces rapid healing and may be used in any individual or any portion of the body.

OBSTINATE COUGH OF PREGNANCY.

Dr. Tripet (*La Semaine Medicale* No. 55, 1893), in a case of obstinate cough of pregnancy which had resisted all treatment, tried a treatment similar to that used in the incoercible vomiting of that period. The cervix was found swollen, livid, bathed in yellowish pus and with an extensive ectropion. Under the influence of insufflations of iodoform and applications of iodine the fatiguing cough considerably improved and after six applica- of the galvano-cautery to the cervix it disappeared entirely.

ETHER LOCALLY IN INCARCERATED HERNIA.

Prof. Gussenbauer (*Prager Medicinische Wochenschrift* No. 35, 1893), has employed the local application of ether to the hernial tumor according to Finkelstein, in a series of cases. The patient is placed in the dorsal position, with the pelvis elevated, the knees and thighs flexed and, in men, the scrotal sac supported with a cushion, and, then, every ten minutes to quarter-hour, from one to two table-spoonfuls of sulphuric ether are poured on to the hernial ring and the tumor. This is continued until the tensely distended tumor loses its tension and slightly diminishes, which will occur in three-quarters to three hours. As soon as this is remarked, if it does not reduce itself spontaneously, a few manipulations will suffice to do that which chloroform anæsthesia and strength failed to accomplish, the intestine slips with astonishingly

ease and loud gurgling into the abdominal cavity. The only exception will be those cases where omentum alone is incarcerated. Out of twenty-five cases etherization was successful in twenty. In three spontaneous reduction occurred without taxis and in one the patient reduced it himself. In the other cases it was easily done with slight manipulation as soon as the sensitiveness of the ring and the tension and volume of the tumor were diminished. Most frequently reduction was done in two to three hours, at the earliest in an hour, and twice in five to six hours. The ether is not the only effectual agent for by elevation of the pelvis for some time, with slight taxis, some hernias were reducible, yet the influence of the ether was noticeable. This method if used soon after incarceration will succeed in the majority of cases and is of especial service in country practice. [Hypodermic injection of morphine (¼gr.) and atropine (1/150gr.) into the region of the ring is also of service.—ED.]

IODIDE OF POTASH IN HEADACHE.

In the *Anales Of Del Circulo Medico Argentino*, Tomo XVI, No. 5, 1893, the iodide of potash, in small and frequently repeated doses is recommended as an efficacious remedy in headache. Two grains in an ounce of water every quarter hour will relieve completely, in a short space of time, frontal headache accompanied by sensations of heat and chilliness, languor, general malaise, repugnance of food and nausea. These headaches are from definite or special causes and may be regarded as sympathetic headache with a slight syphilitic element, which is either hereditary or acquired. The iodide of potash administered in this manner, often exercises a marvelous action.

TREATENT OF LEUCORRHŒA.

Dr. Gallois (*Anales Del Circulo Medico Argentino* No. 5, 1893) speaks highly of the following formulæ in the treatment of leucorrhœa:

℞ Sulphate of Copper, ... 1gm. (grs. xv).
Water, ... 256 gm. (℥viij).

To be used as in injection in chronic leucorrhœa. At the same time a ferruginous tonic and general baths should be prescribed.

℞ Salicylic Acid.....6 gms. (ʒ jss).
Glycerine.....128 (℥iv).
Water .....1 quart.

Dissolve the salicylic acid in the glycerine, over a fire, and then add the water.

To be used in six injections, one each day, in cases where the leucorrhœa is due to inflammation or irritation in the neighborhood of the uterus or vulva.

PHOSPHORUS IN OSTEOMALACIA.

Dr. Steinberg (*Gyógyászat* No. 36, 1893) recommends phosphorus in the treatment of osteomalacia and in the following formula:

℞ Phosphorus..... 5 cgms. (gr. j).
Cod-liver Oil..... .... 50 gms. (ʒj ss).

A teaspoonful once a day.

FORMULÆ FOR THE ANTISEPTIC TREATMENT OF BOILS AND CARBUNCLES.

Dr. E. Gourine (*Le Semaine Médicale* No. 56, 1893) has found the following formulæ of value, in the antiseptic management of boils and carbuncles:

℞ Chloroform..... 30 gms. (ʒj).
Essence of Canella..... 10 (ijss) 5.
Carbolic Acid..... ½ (gtts.xv-xlv).
Camphorated Oil..... 50 (jss ʒ).

℞ Chloroform .....gms. 30 (ʒj).
Essence of Cloves. ..... gms. 5-10 (ʒj¼ʒiss).
Beechwood Creasote .....gms. 1-2 (gtts. xv-xxx).
Camphorated Oil.....gms. 50 (ʒjss).

℞ Sublimate..... 10-30 cgms. (grs. jss-ivss).
Carbolic acid..... 1-3 gms. (gtts xv-xlv).
Alcohol..... . . 10-30″ (ʒijss-ʒj).
Distilled Water. ... 90″ (℥iij).

℞ Salicylate of Mercury..cgms. 10-30 (grs. jss-ivss).
Salicylic Acid.....gms. 1-2 (grs. xv-xxx).
Alcohol .....gms. 10-20 (ʒijss-v).
Distilled Water .....gms. 80 (ʒijss).

℞ Biniodide of Mercury..cgms. 10-30 (grs. jss-v).
Tincture of Iodine ,....gms. 1-2 (gtts. xv-xxx).
Glycerine ....
Destilled Water, aaa...gms. 50 (ʒjss).

A compress soaked with one or the other of these solutions is applied to the furuncle or carbuncle, and, at the same time, subcutaneous injection of one of the following injections is made:

℞ Carbolic acid..... 10-20 cgms. (grs. jss-iij)
Sublimate..... 5 mgms. 1 cgm. (1-15; 1-5 gr.)
Sodium Chloride. 7 cgms. (grs. x.)
Distilled water... 10 gms. (ʒi jss.)

℞ Carbolic acid..... 10-20 cgms. (gtts. jss-iij).
Salicylate of Soda.
Biborate of Soda... aaa, 1 gm. (grs. xv).
Glycerine..... 2 gms. (gtts. xxx).
Saturated Solution of Chloroform, 8 gms. ʒij).

℞ Iodoform..... 30 50 cgms. (grs. iij-viij).
Salol..... ... 5 dgms.-Ug 1 gm. (grs. vijss-xv).
Carbolic acid.. 10 cgms. (grs. jss).
Ether..... 2-4 gms. grs. xxx-ʒj).
Alcohol..... 6-8 gms. (ʒjss-ij).

This treatmeut has given him excellent results and has prevented employing surgical measures.

CURRENT LITERATURE REVIEWED.

IN CHARGE OF ELLISTON J. MORRIS, M. D.

THE MEDICAL CHRONICLE,

(of Manchester, Eng.) for October. Dr. H. C. Dalton, M. A. M. D., contributes a paper on

Smallpox in its Relation to Vaccination and other Means Designed for its Prevention.

The paper is based on the critical examination of one thousand recent cases and deals with the three preventives of the disease, vaccination, isolation and healthy environment. Of the thousand cases under consideration 35 were fatal, giving a mortality of 8.5 per cent. As the result of his investigations he believes we have good cause for assuming—

1. That primary vaccination, successfully performed, is an almost absolute preventive of smallpox for a few years, and that in the few instances of smallpox that occur, the attacks are almost invariably mild.

2. The preventive effect wears off to a great extent in a few years. After this time it is not unusual for vaccinated persons to take smallpox, but the severity of the disease is on an average much less than in the unvaccinated.

3. Good vaccination marks, except by affording better evidence of the fact of previous successful vaccination, are only superior to bad marks for a few years. After this time, the important evidence is derived from the actual presence of marks and not from their quality.

4. There is a slight superiority of three marks and over as against two marks and under, but the difference is not very marked, and similarly, with regard to foveated as against unfoveated marks.

5. It is very probable that vaccination marks wear out in course of time. Good marks turn into bad marks and bad marks turn into no marks. Consequently, in the young, persons with no marks have, in all probability, never been vaccinated, but in old people, many of the vaccinated will be in this class.

6. Re-vaccination acts like primary vaccination in that absolute protection is procured for a few years only. After this interval, the re-vaccination will have added nothing to a successful primary.

7. The protective power of vaccination does not reach its height for at least three weeks. If, therefore, exposure to infection takes place less than a week after vaccination, smallpox may occur, though probably in a mild form. Even if, however, vaccination be performed just before the outbreak of smallpox, it is likely to be successful, and in this case will probably modify the disease.

8. Persistently unsuccessful re-vaccination denotes insusceptibility to smallpox, though one or two failures may be due to other causes.

The author also discusses the duty of the state in reference to vaccination and preventive measures, such as isolation. He comes to the following conclusions: There should be one central authority, who shall see after removal, disinfection, vaccination and all other matters appertaining to small-pox, with power to compensate persons who will undergo voluntary quarantine or otherwise indirectly suffer from having come in contact with smallpox. This central authority should do its utmost to persuade persons to be vaccinated or re-vaccinated, and it should make that one condition of receiving any compensation; it should have power to visit casual wards, shelters, etc., isolate suspicious cases, vaccinate and re-vaccinate, if necessary, all who receive relief from the parish, all who are placed in institutions licensed by the State, and all persons employed by the State.

The paper also includes elaborate tables compiled from the records of the London hospital ships

The remaining paper is by Ernest S. Reynolds, M. D., (Lond.), M. R. C. P. and is entitled "Some Remarks on the Diagnosis and Treatment of Neurasthenia."

THE PACIFIC MEDICAL JOURNAL

for October. Dr. Edward VonAdelung, in a paper entitled

Bowel Paralysis or Septicæmia?

calls attention to a peculiar set of symptoms which sometimes develops after ovariotomies, and which is sparingly noticed by authors, those referring to this complication using the term "bowel paralysis" or considering if under the head of septicæmia.

The condition referred to is characterized by the development of vomiting, marked tympanites, rapid weak pulse and locked bowels, while the temperature, entirely independent of the pulse, may be high or not. The patient is free from pain, though decidedly collapsed. The vomiting is continuous and before long assumes a grumous character. The pulse runs up in the forties, and there seems to be no parallelism between it and the temperature. The patient is extremely weak and collapsed, but complains of no pain even on pressure over the abdomen. The reason for terming the condition "bowel paralysis" is, that most frequently all efforts to produce a passage of gas or fæces meet with disappointment. And it does not seem wise to use the term "septicæmia," because of the variability of the temperature, and the remarkable fact that as soon as the bowels are moved, which can occasionally be accomplished, all the symptoms immediately abate. If the bowels cannot be moved, the patient dies.

The facts that the post-mortems often disclose healthy abdominal cavities containing no excess of fluid and absolutely no pus, and that the miscrope discovers no characteristic cocci, would seem to exclude septicæmia. Bowel paralysis appears more probable, though its etiology is difficult. The strongest point in favor of this view is the indisputable fact that, if the bowels are moved, all the symptoms immediately and invariably subside. The practical questions bearing on the subject are the etiology and especially the treatment.

All the various means of stimulating peristalsis have been suggested. Martin recommends electricity and massage. Probably these, with the addition of hypodermic doses of strychnine, prove useful. Salines and calomel early in the after-treatment have their warm adherents. Enemata of ox-gall have proven valuable in some cases. But the therapeutics of this complication needs further clinical study before the best line of treatment can be determined.

Dr. Samuel E. Milliken contributes a "Review of the Operative Treatment for the Radical Cure of Inguinal Hernia." (As this paper also appears in *The Buffalo Medical and Surgical Jouraal* for October, it will be noticed under that journal. Ed.)

The other papers in this month's issue are: "Abuse of Digitalis in Cardiac Diseases," by Dr. J. S. Leonhardt; "The Modern Eye," by Dr. W. F. Southward; the report of an "aneurism of the Superior Mesenteric," by Dr. Fred. W. D'Evelyn; and the report of a case in the later months of pregnancy in which there were only "Twenty four Heart Beats a Minute," by Dr. A. E. Baldwin.

THE BUFFALO MEDICAL AND SURGICAL JOURNAL

for October. Dr. George F. Cott contributes an article on

Intubation.

The author states that he does not always consider the operation one of necessity as regards the saving of life, but principally to relieve obstructive breathing. No doubt many children in whose larynx a tube has been inserted, would recover without it, but the agony caused by the want of air, before the child becomes delirious, must be fearful. Therefore he urges that in all cases of laryngeal stenosis, pseudo-membrane or no pseudo-membrane, if life is threatened, insert a tube, and if the child dies, it will certainly die happy. The tube also serves another purpose. In diphtheria, for instance, when the membrane does not extend to the bronchi, the pressure exerted upon the surface of the tube causes maceration of the pseudo-membrane and its consequent expulsion by coughing, thereby preventing its active absorption.

The cause of the second obstruction, sometimes observed after the child has apparently recovered and after the tube has been removed for three or four days, cannot possibly be due to the formation of false membrane, as that cannot develop so quickly, but seems to be caused by the relaxed tissue, and possibly the vocal cords, having been pressed apart for several days, suddenly collapse, and thus shut off the air.

Occasionally, sudden cessation of respiration occurs after the tube has been introduced, caused by false membrane occluding the opening. In that case a small catheter may be passed through the tube to push the membrane out of the way, and while doing this the child will probably die; it is better, therefore, to withdraw the tube immediately, as the irritation attendant upon the manipulation usually causes coughing, and the false membrane is expelled often in sufficient quantity to relieve the stenosis.

The tube may be retained any length of time but it is well to remember that enough irritation may be set up to cause erosion, and finally granulations which occlude the tube, when removal becomes necessary, probably the larynx dilated and a larger tube inserted, which will press on the granulations and cause their absorption. In acute cases stenosis from edema or pseudo-membrane the tube is not left in long enough to produce such an effect. The author makes it a rule, if the child's condition permits, to remove the tube on the third or fourth day and reinsert it if necessary.

The present O'Dwyer gag, or any other, has given more trouble than is convenient, constantly slipping, and even breaking, under the enormous pressure exerted by the jaws of the child. In order to run less risk of being bitten, the author has had a ring made to fit upon the index finger, between the second and third joints, the most exposed part; it is broad above and narrow below. The dorsal surface of the finger, being rather thin, is easily penetrated, while the palmar surface being thick, is not affected. Mobility is not lessened by its use, as is the case with other protectors found in the shops.

The author insists on early intubation, not in preference to tracheotomy, but to give the child a very fair chance to recover, if that be possible; for certainly a small proportion die for want of air, and that is always obviated by the tube. The principal objectivesymptom, among others, which always means obstruction somewhere in the air passages above the bronchi, is a very marked recession at the pit of the stomach at every inspiratory effort, and cannot be overlooked.

Intubation is just as efficient in the adult as in the child and the author advises the use of the twelve year O'Dwyer tube in edema or any other obstruction of the larynx in the adult, if no larger tube is at hand. He advises in such case to allow the thread to remain attached to the tube to prevent slipping. He thinks intubation preferable to tracheotomy in such cases, especially when obstruction is not likely to be of long duration; moreover, no scar is left, as in tracheotomy. Even in chronic stenosis, it seems to be more serviceable than the tracheotomy tube.

Dr. A. B. Judson discusses

The Treatment of Pott's Disease of the Spine.

In the treatment, the end in view is to relieve the bone of the duty of supporting weight and concussion; and to prevent the affected joint from motion, believing that the arrest of these two functions, weight bearing and motion, are essential to good treatment. It is not wise to keep the patient recumbent for the long period necessary. And, since the patient must be up, and, to a certain extent, active in locomotion, our best resort, in the author's opinion, is to take what benefit can be had from the application of a lever making pressure from behind forwards in the neighborhood of the posterior projection, and counter-pressure from before backwards at two points, one above, and the other below the level of the seat of the disease. In a limited sense, this application relieves the diseased joints from the weight of the body while the patient is up and about; because antero-posterior pressure, thus applied, transfers a part of the weight and concussion incident to standing and walking, from the diseased bodies of the vertebræ to the processes, which remain sound.

The apparatus needed is essentially simple, consisting of two parallel uprights, united below by a pelvic band, and diverging at their upper ends at the base of the neck, and curving over the tops of the shoulders. Pressure from behind forward is made by two pads attached to the uprights at the level of the projection, and applied a short distance from the median line on each side. Counter-pressure from before backwards is made below by a strap passing from one end of the pelvic band to the other in front of the pelvis, and above by straps, one on each side, passing from the upper end of the upright through the axilla, to be buckled to the upright. The most important feature of a brace constructed to carry out these views is the use of mild steel for all the metal parts. The use of this material puts in the hand of the surgeon the power to modify the degree and direction of pressure to the changing shape, and to meet the increasing tolerance of the skin to pressure. The reaction of the skin should receive special and constant attention, and gentle and gradually increasing pressure should be made till the limit of comfortable tolerance is reached.

Dr. Samuel E. Milliken contributes a

Review of the Operative Treatment for the Radical cure of Inguinal Hernia.

After having looked up more than three hundred cases of recurrent hernia after various methods, which came under the author's care at the "Hospital for Ruptured and Crippled," he is convinced that the percentage is far greater than the operators are led to suppose by the immediate apparent good results. It is his opinion that too much is expected from the radical operation, owing to the fact that, with all of nature's devices, she has failed to let the structures of the spermatic cord make their exit from the abdominal wall without leaving each subject liable to hernia, no age being exempt. So long as it is not deemed advisable to sacrifice the testicle, the best that we can hope for is to imitate nature and re-establish the obliquity of the canal. This is best done, in the author's opinion, by the method of Bassini, which is as follows. First, the aponeurosis of the external oblique muscle is divided over the cord structures, until the internal ring is well exposed; the flaps are separated from their underlying structures, until the conjoined tendon on the upper and the shelving process of Poupart's ligament on the lower are brought into view. The cord structures and the hernial sac are next lifted out of their bed *en masse*, after which the sac is isolated, opened and tied off at the highest point. Secondly, with the cord held out of the operation field by a blunt hook or the finger of an assistant, the conjoined tendon, on the upper is sutured to the shelving process of Poupart's ligament on the lower, by means of the kangaroo tendon or chromatized cat gut. The author prefers the kangaroo tendon, as the time for absorption is longer, and the sutures are stronger for their size. From four to six interrupted sutures are sufficient to make a firm posterior wall for the cord structures, care being taken not to constrict them at the internal ring.

Thirdly, the obliquity is re-established by bringing together the flaps of the external oblique by a continuous suture of the same material. The skin wound is closed with interrupted catgut sutures without drainage.

Of something over the thirty cases operated on by the author after this method, he has had three recurrences. In each suppuration occurred, and the hernia made its appearance during the first six months. In regard to treatment the author comes to the following conclusions:

1. Reconstruction is the best method.
2. No drainage should be employed.
3. The use of trusses should be prohibited afterwards.
4. While a certain percentage will recur, the operation is justifiable between four and forty years of age, unless some physical disability contraindicates the same.
5. Where omental or intestinal adhesions exist, and the use of a truss is unsatisfactory, the operation should always be attempted, as the danger from strangulation is greater than that from the employment of an anesthetic.
6. It is advisable to attempt a radical cure in all cases operated upon for strangulation, unless the gut be gangrenous or the patient's vitality too low.
7. Where undescended testes exist, it will usually be found to be complicated by hernia, and at the time the organ is anchored to the scrotum, the inguinal canal should be reconstructed.

The remaining papers in this issue are "School Life and Physical Development," by Dr. Louis A. Weigel; and "Cysts of the Nasal Passages" by Dr. W. S. Renner.

THE AMERICAN JOURNAL OF OPHTHALMOLOGY

for July opens with an article by Dr. A. Schapringer of New York, on

Iritis as a Symptom of Bright's Disease.

Illustrated by a case to which he was called on October 28th, 1890. Dr. Schapringer thus describes it: "I found the patient a man about thirty-five years old, sitting up in a darkened room, his posture and the expression of his face revealing intense photophobia. Before I proceeded to examine his eyes he told me that he had been under treatment for the last three weeks by Dr. Louis Conrad for an affection of his kidneys and that when his eyes began to trouble him, Dr. Conrad had advised that I be consulted.

"The lids of both eyes which were kept closed by the patient were not swollen. He complained of intense pain in his right eyeball, which was extremely sensitive to touch and could not bear the slightest pressure exerted upon it. There was well marked œdema of the conjunctiva bulbi, but not associated with any change of the normal white appearance of this membrane. The cornea was clear, but the aqueous humor was slightly turbid. No precipitate could be made out on the posterior wall of the cornea. The iris looked discolored and dull and the pupil was contracted, but regular in outline. An ophthalmoscopic examination or tests as to the acuity of vision could not be made, beyond the fact that a fog seemed to cover the field of vision of that eye." Dr. Conrad stated there was no history of syphilis in the case but that the patient had come to his office three weeks before, complaining of headache and nausea and looking badly. The Doctor immediately suspected Bright's disease, which suspicion was confirmed by an examination of the urine. "As a local treatment of the eye I prescribed the instillation of a solution of atropia sulphate, gr. i. to ℥ss every two hours. Whilst the patient on the next day felt considerable relief in his right eye, his left eye now began to trouble him in the same way as the right. Under the same treatment both eyes improved and were well in about six days." * * * "The patient's death occurred on December 6, 1890, about five weeks after the first onset of the eye trouble. I learned that two weeks before the patient's demise the sheaths of the extensor tendons of the right hand became inflamed. A few days before the end this inflammation subsided to be replaced by an attack of pericarditis to which the patient succumbed in a uræmic condition. No autopsy was made."

Dr. Schapringer was led to associate the iritis with the kidney disease from a recollection of Leber's case published a few years ago.

The remainder of this number is occupied by a translation from Dr. H. Cohn's work on "Hygiene of the Eyes." It deals especially with that portion devoted to the consideration of

The occurrence of Myopia among School Children.

The details of this elaborate and valuable paper are too lengthy for us to reprint, but the following facts and deductions will be interesting to our readers:

"Myopia is a very widely spread disease. Among 40,000 patients that came into my clinic, 6, 707 were short sighted, that is 16.8 per cent. Mooren observed among 108,416 patients 8,452, 7.8 per cent. suffering from myopia.

"A far better insight into the extent of myopia than reports from eye clinics, is given by researches among school children, and we possess in this regard materials which do not exist in such completeness in the case of any other disease."

"I undertook, in 1865–6 the examination of 10,060 school children in schools of all grades. I found 88 per cent. of emmetropia, 13 per cent of errors of refraction (of this 10 per cent. myopia) and 4 per cent. of other eye diseases. The frequency of myopia is shown in the following table: I noticed in

	Per cent. M.
5 Village Schools	1.4
20 Elementary Schools	6.7
2 Higher Girl's Schools	7.7
2 Intermediate Schools	10.3
2 Realschulen	19.7
2 Gymnasiums	26.2

Therefore among 10,060 children 1,004 M. 9.9 per cent.

From this follows: 1. *That in the village schools only a few appeared short-sighted; that on the contrary, in the city schools the number of the short-sighted continualy increases from the lowest to the hiyhest school;* that, therefore, the number of the short-sighted stands in direct proportion to the longer strain to which the eyes have been subjected.

2. *That the number of the short-sighted from class to class in all schools increased.*

Also, with increasing age the degree of myopia increases; although the higher degrees of myopia occur more frequently in the first four school years than in the seventh to tenth year of age."

The average degree of short-sighted pupils is constantly increasing from the village schools to the gymnasium.

Dr. Cohn agrees with Erismann in the conjecture that "hyperopia is the normal condition of refraction in the youthful eye, and that only the smaller portion of the cases remain far-sighted. The majority become short-sighted after they have passed through the state of normal sight."

After furnishing a large number of statistics he says "From all the figures given above it only follows with certainty *that in the whole civilized world, in all nations, the number of the short-sighted increases with the demands which their school work makes, and from class to class*" and "We declare ourselves of the opinion that *in the schools everything should be so arranged that it will not cause injury to the eyes.*"

PERISCOPE.

IN CHARGE OF WILLIAM H. BRICKER, M. D., B. SC.

MEDICINE.

Eye-Paralyses.

The *Amer. Jour. Ophthalmology* contains a very comprehensive article on the paralyses of occular muscles. The following is a summary:

1. All cases of lateral conjugate paralysis are of central origin.
2. When the paralysis is on the same side as other paralysis, the lesion is on the opposite side of the brain. Such paralyses as a rule are transitory, and follow almost any sudden lesion, and often show themseves as a prevailing position of the eye, and not as a true paralysis, or even paresis.
3. When the paralysis is crossed with the paralyses below, the lesion is in the pons-medulla region.

The above three conclusions are equally true of spasms

4. A gradual development of conjugate paralysis clearly points to the region of the sixth nucleus of the same side as affected.
5. Paralysis of up or down motions, or both motions, indicate disease in the region of the corpora quadrigemina, at the point of exit.
6. Reasoning from anology, paralysis of convergence points to disease in the central gray below the aqueduct, but as yet autopsies are lacking.
7. Picked paralysis of parts of a third nerve strongly suggests central disease, but is not proof of it.
8. A majority of cases of eye-paralysis occur in the syphilitic.
9. A paralysis which changes rapidly, quickly showing fatigue, is probably central in origin.
10. Transitory paralysis in the syphilitic is strongly suggestive of future tabes.
11. An eye paralysis, however simple it may seem, is always a just cause for suspicion of trouble to come, and demands a prompt and thorough examination of the patient.
12. There is no evidence that there is any form of connection between the sixth nucleus and the third except in the cerebrum.

Diagnosis of Inebriety from Apoplexy.

Dr. Mills, in a recent clinical lecture on the case of a man picked up in the street unconscious, remarked as follows:

"This man has no external evidences of fracture; but sometimes without fracture or with concealed fracture, a sudden fall or blow on the head will produce an extradural or sub-dural hemorrhage. Such patients are usually unconscious at first, and often regain or partially regain their senses, and again lapse into unconsciousness. One dilated pupil, convulsions, and some hemiparesis, are among the prominent symptoms of such a lesion. The signs and symptoms present do not point clearly to this lesion.

"Other diagnoses to be considered are those of drunkenness, opium poisoning, epilepsy, uremia, and embolism or cerebral hemorrhages, perhaps still others, but these are the most important.

"Profound alcoholic intoxication can be excluded, as this patient is evidently absolutely unconscious, and suffering from profound paralysis, more marked on one side than on the other. In dead drunkenness, while consciousness may appear to be lost, the condition is rather one of extreme stupor or stupidity, and the patient by strong excitants can usually be made to respond in some way, although he may immediately sink again into his stuporous state. The smell of liquor on the breath may help, but this cannot be relied upon, as a patient insensible from any cause may have been drinking. Both sides of the body are equally affected in extreme alcoholic intoxication.

"Several facts will easily exclude opium poisoning, such as the sudden onset, the absence of pinpoint pupils which will not dilate, and the peculiarities of the state of insensibility. As the man was seen at the time of and immediately after his attack, and for other reasons, the post paroxysmal sopor of epilepsy can be dismissed.—*Jour of Inebriety.*

Dawson (Rankin) on Sbocrrhio Eczema.

Under this title Unna includes:

1. Seborrhœa capitis, pityriasis capitis, scurvy, or dandruff.
2. Seborrhœa proper, where greasy crusts are found on the scalp.
3. Lichen circinatus of Willan, or seborrhœa corporis of Duhring.
4. A number of chronic exezmatous eruption affecting the back of the ears and sometimes the folds of the joints, and frequently associated with a scurfy condition of the head.
5. Cases occupying apparently an intermediate position between psoriasis and eczema, well defined and scaly on some parts, less well defined and moist on others.

The writer closes his discussion as follows:

We are then, we believe, justified in concluding—

1. That Unna's "seborrhæic eczema" cannot be regarded as a separate or distinct disease, but rather as an interesting group of affections.
2. That patient in whom the sebaceous system is exceptionally active or exceptionally developed are especially liable to these affections.
3. That eczematous, psoriasiform, syphilitic, and, indeed, almost all eruptions are

likely to be modified in character and appearance in the case of these patients.

4. That the skin of such patients affords an exceptionally favorable soil for the growth of many kinds of parasites, which in their turn tend to modify the character of pre-existing eruptions, or to induce further inflammation.

5. That the treatment of these affections should, in the first instance at least, be directed against this parasitic element when present.

Unna's theory that the seborrhœic affections are dependent largely or chiefly on the sweat glands must, we believe, be regarded as, to a large extent, purely hypothetical and as yet unproved.—*Montreal Med. Jour.*

THERAPEUTICS.

The use of Cocaine.

1. Amount of cocaine used must be in proportion to extent of surface it is desired to anæsthetize. In no case should the quantity exceed one grain and three-quarters.

2. Cocaine should never be used in cases of heart disease, pulmonary disease, or in persons of highly nervous temperament.

3. In injecting cocaine, the intradermic method is preferable to hypodermic. By injecting into, not under mucous membrane or skin, the risk of entering a blood vessel is avoided.

4. During injection the patient should always be in a recumbent position; in operations upon the nose and throat, the head should not be raised until anesthesia is complete.

5. It is of great importance that cocaine should be pure, since its combinations with certain other alkalies result in poisonous compounds.—*Brooklyn Med. Jour.*

The action of Pilocarpine on Bodily Temperature.

In a series of experiments conducted by Professor Reichert on this drug the Doctor states that the results of his observations justify the following conclusions:

(1) Pilocarpine first increases and then decreases bodily temperature.

(2) Heat production and heat dissipation are first increased and then diminished. Heat production is the process primarily affected, the alterations in heat dissipation following and being dependent upon the effects upon heat production, excepting after very large doses, when heat dissipation may be depressed even more than heat production during the stage of lessened heat production.

(3) The alterations in temperature are dependent essentially upon the actions on heat production, but may be affected by sweating, and after very large doses by alterations in heat dissipation.

The primary increase of temperature is due primarily to an increase of heat production, but after very large doses this increase may be exaggerated and continued by a diminution of heat dissipation which is greater than the depression of heat production.

The decrease of bodily temperature is due to a diminution of heat production, but may, in part, be due to sweating.

(4) The actions on the process of heat production are so much more potent in their effects on temperature than those on the sweat glands, that it is doubtful if the latter ever plays an important part in the temperature alterations.

(5) Bodily temperature may be increased during the stage of diminished heat production, owing to the greater depression of heat dissipation.

(6) The amount of increase and decrease of temperature and the duration of each of these periods are essentially in direct relation to the dose.—*Univ. Med. Mag.*

The Admisistration of Anesthetics.

The following deductions (*Lancet*, No. 3642, p. 1498) have been arrived at by the Commission appointed by the *Lancet* to investigate from a clinical standpoint the subject of the administration of chloroform and other anesthetics: The death-rate under anesthetics has heretofore been unduly high, and may be lowered by improved methods and greater care. Ether is the safest anesthetic in temperate climes for general surgery, when properly given from an inhaler permitting graduation of the strength of the vapor. Nitrous oxide gas should be employed for minor surgery. Chloroform is a comparatively safe body when given by a carefully trained person, but is not in any case wholly devoid of risk. No age or nation is free from danger under anesthetics. The perils of anesthesia, however slight, demand that the undivided attention of a duly qualified and trained medical man should be given to the administration of the anesthetic.

Rules for Passing the Sound.

1. Place the patient in the reclining posture, and make the flexures described—at least flex the thighs.

2. Lubricate the urethra by injecting alboline, or some refined oil; if the oil is not cocainized and it is desirable to use cocaine, it should be first applied.

3. Make the urethra tense by traction.

4. Avoid force; go slow; be patient.

5. Guide the instrument if obstructed in the deep urethra, by the finger introduced into the rectum.

6. All instruments are to be made surgically clean and perfectly smooth.—*Med. Brief.*

Gibby (F. H.) on the Surgery of Childhood.

The principal danger is from hemorrhage, as children bear poorly the loss of blood. But removed from the operating table alive, they are the best subjects. Inflammation rarely passes the degree necessary for repair, while pyæmia is less to be feared. Chloroform is the anæsthetic and properly given is perfectly safe.—*Mass. Med. Jour.*